APPENDIX 8.1

INITIAL STUDY (w-APPENDICES)

INITIAL STUDY
FOR DEVELOPMENT PLAN
DP-2019-1997 PROJECT

Prepared for:

City of Murrieta
1 Town Square
Murrieta, California 92562

Project Applicant:

Nutmeg/Washington Development, L.P.
7210 Jordan Avenue, #B7
Canoga Park, California 91303

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June 2020

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CITY OF MURRIETA
COMMUNITY DEVELOPMENT DEPARTMENT
INITIAL STUDY

PROJECT INFORMATION

i)	Project Title:	The Development Plan DP-2019-1997
ii.	Applicant:	Mr. Barton L. Buchalter, Esq. Nutmeg/Washington Development, L.P. 7210 Jordan Avenue, #B7 Canoga Park, CA 91303
ii)	Lead Agency Name Address:	City of Murrieta 1 Town Square Murrieta, CA 92562
iii)	Contact: Phone Number:	James Atkins, Planner (951) 461-6061
iv)	Project Location:	The proposed project is located north of the intersection of Nutmeg Street and Washington Street in the City of Murrieta, Riverside County, California. The site is located Section 7, in Township 7 South, Range 3 West SBM as found on the USGS – Murrieta Quadrangle, 7.5 Minute Series topographic. The geographic coordinates are as follows: 33.573887, -117.234522 (Please refer to Figures 1 and 2 for project location depicted at a regional and site level).

PROJECT DESCRIPTION

1. Introduction

This document is prepared as a Tier 2 Initial Study (IS) to a previously adopted IS/MND, SCH No. 2005121029 which was completed in April of 2005. The Applicant is proposing to modify the original approved project and the City intends to consider this Tier 2 Initial Study in order to evaluate the proposed project modifications and determine whether and Environmental Impact Report (EIR) may need to be prepared. The project modifications/changes are summarized in the following text. Figures 1 and 2 show the Regional Location and Site Location of the project site. The formal action(s) that may be taken by the City consists of modifying the entitlements for the original approved project for the 14.4-acre site. This Initial Study will consider Development Plan DP-2019-1997; the Project proposed to be evaluated under this Initial Study will henceforth be known as the Washington/Nutmeg Multifamily Development Project. The modifications proposed as part of the current project deviate from the project approved in the 2005, based on the originally adopted IS/MND.

2. Proposed Modifications to the Approved Vesting Tentative Parcel Map 30394 (VTPM 01-194) / Development Plan (01195)

The approved Vesting Tentative Parcel Map 30394 (VTPM 01-194) / Development Plan (01195) consisted of 156 market-rate units and 54 Senior units for a total of 210 units at a density of 14.58 dwelling units per acre (du/acre) on an approximately 14.4-acre site (same site). The original project proposed 430 parking spaces, which met the City's parking requirement, 212 of the spaces were covered garages, 120 were carport spaces and the remainder were uncovered spaces. Access to the project was provided by two gated drives located on Nutmeg Street and Washington Avenue. Off-site improvements that were to be completed as part of the project would have included curb and gutter on adjacent streets, and lighting and landscaping along Washington Avenue and Nutmeg Street on the project side of the street. The 210 units were located in 20 buildings, and 19 of the 20 apartment buildings were planned with second floors.

Project Modifications Considered in this Initial Study

This Initial Study evaluates the following modifications to the development of this 14.4-acre site. If the proposed site development plan (DP-2019-1997) is approved, the revised Washington/ Nutmeg Multifamily Development would construct 17 apartment buildings (instead of 20) containing 210 multi-family housing (all market-rate apartment units). This includes 88 one-bedroom units; 88 two-bedroom units; and 34 three-bedroom units. There will be 13 two-story buildings and four three-story buildings. A total of 210 garage spaces will be installed; 183 uncovered parking spaces will be installed; and 52 guest parking spaces will be installed for a total of 445 parking spaces. Off-site improvements to be completed as part of the project would include curb and gutter on adjacent streets, and lighting and landscaping along Washington Avenue and Nutmeg Street on the project side of the street. The developer is seeking to merge the four parcels that exist on the 14.4-acre site into one parcel. The current site plan is shown on Figure 3.

Thus, the current plan contains the same number of apartment units and fewer overall buildings; all apartment units will be market rate, with none allocated to seniors; four of the currently proposed 17 buildings will be three stories in height, rather than two stories; and site parking will be provided in 445 spaces instead of 430 spaces, with no covered spaces.

The following amenities will be included with the project: clubhouse with open kitchen, BBQ area and fire-pit with seating; swimming pool with spa; exercise room; children's play area with play equipment; dog park; bocce court with BBQ area; outdoor evening movie area; open grass play area; tech room; a leasing office with conference room; and enclosed mail room with dedicated area for on-line packaging area.

List of All Applications

1. Development Permits DP-2019-1997: Required to permit the proposed project improvements at the site, such as site buildings and landscaping

Construction Scenario

The anticipated construction sequence is as follows, but may be adjusted to conform to specific conditions at the time of actual construction:

1. Clear and grub;
2. Preparation of subgrade;
3. Mass-grade site and road beds;
4. Installation of the storm drain systems;
5. Installation of public sewer systems;
6. Installation of public water systems;
7. Fine grade to prepare for surface improvements;
8. Installation of building foundations;
9. Install private utilities, including water quality infrastructure;
10. Install curb, gutters, sidewalks and first asphalt lift;
11. Surface improvements on Washington Avenue and Nutmeg Street;
12. Complete construction of buildings;
13. Install landscaping; place final lift of asphalt; and
14. Install signage and striping.

Most of the preceding construction activities are self-explanatory. The buildings will be developed with a combination of wood framing, and the exterior will be stucco, similar to surrounding residential structures. Construction should be initiated in mid-2021 in one phase and the project should open for occupancy in 2022. The project site will require about 52,173 cubic yards of cut and fill, with import of approximately 40,000 cubic yards. Construction details are discussed in the Air Quality evaluation in Appendix 1.

3. Description of the Project Site

The Project site is roughly a rectangular parcel of land that is bounded northwest by Washington Avenue and on the southeast by Nutmeg Street; single-family residential uses bound the property to the north and east. The project site is highly disturbed from past grading and other disturbances. The site topography can be described as essentially flat with a shallow slope to the south towards the Washington/Nutmeg intersection. The project site contains ruderal (weedy) vegetation and no onsite structures. The overall setting is that of a moderately urbanized location, in the process of becoming more highly urbanized. Refer to the aerial photograph in Figure 2 for a representation of the existing project site.

4. Surrounding Land Uses

North: Single-family residences
South: Nutmeg Street and undeveloped open space south of Nutmeg
East: Single-family residences
West: Single-family residences west of Washington

5. General Plan Designation

Existing: Multiple-Family Residential
Proposed: No change in General Plan designation proposed

6. Zoning

Existing: Multi-Family 1, Residential
Proposed: No change in zone classification proposed

7. Other Agencies whose approval may be required

Based on an evaluation of the specific project location, the proposed project will not require any permits from other agencies to support development of the site as proposed by the Nutmeg/Washington Development, L.P. applications. The amount of area to be disturbed by the whole project will be greater than one acre; therefore, the developer will be required to file a Notice of Intent (NOI) for a General Construction permit to comply with the National Pollutant Discharge Elimination System (NPDES) requirements. The NOI is filed with the State Water Resources Control Board and enforced by the San Diego Regional Water Quality Control Board. A Stormwater Pollution Prevention Plan (SWPPP) must be implemented in conjunction with construction activities. No other permits or agency requirements have been identified in association with the proposed project.

8. Have California Native American tribes traditionally and cultural affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun? Yes

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality. Consultation was initiated and completed.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

As indicated by the checklist on the following pages, there are no "Potentially Significant Impacts" associated with implementation of the proposed project that cannot be reduced to "Less than significant" with mitigation incorporated. An "X" next to an issue area in the following table indicates where mitigation is included to reduce impacts from "Potentially Significant" to "Less than significant".

X	Aesthetics		Agricultural and Forestry Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources		Energy
X	Geology and Soils	X	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials
X	Hydrology and Water Quality		Land Use and Planning		Mineral Resources
X	Noise		Population and Housing		Public Services
	Recreation	X	Transportation / Traffic	X	Tribal Cultural Resources
	Utilities and Service Systems		Wildfire	X	Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

☐	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☐	Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☒	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	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.
☐	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.

Prepared by — Date

Lead Agency (signature) — Date 6/15/20

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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

SUBSTANTIATION

a. *Potentially Significant Impact* – Adverse impacts to scenic vistas can occur in one of two ways. First, an area itself may contain existing scenic qualities that would be altered by new development. A review of the project area determined that there are no scenic vistas located internally within the area proposed for the development of the Project. The proposed project is located adjacent to two existing primary roadways in north Murrieta (Washington Avenue and Nutmeg Street). To the north, east and west are existing single-family residences and to the south is an open space area and mixed uses. The site has been previously graded and does not have any distinctive visual features on the property. Thus, the project site is located within an urbanized visual setting and is bordered by surrounding roadways and suburban development. Therefore, the development of the proposed apartment complex is not expected to impact any important scenic visual qualities within the project site.

A scenic vista impact can also occur when a scenic vista can be viewed from the project area or immediate vicinity and a proposed development may interfere with views to a scenic vista. The City of Murrieta General Plan indicates that the variety of rolling hillsides, mountain ranges (both the Santa Ana Mountains and the Santa Rosa Plateau), the Valley floor, and varied natural vegetation contributes to the unique visual character of Murrieta. From the residences immediately adjacent to the ~~to the~~ property (north and east) scenic views to these mountains presently exist for about 15 private residences. There will be no loss of <u>public</u> views to the scenic vistas to the west as there are no public viewing locations that will be compromised by the proposed project. Also, since the project is in an urbanized area, the City has determined that the project is consistent with the applicable zoning.

However, the City has received input from the local citizens about concerns with loss of scenic vistas to the west along with requests to conduct visual simulations of the change in these vistas from developing the proposed project. Based on this citizen input and the potential for adverse impacts to existing private scenic vistas from project implementation, the City will evaluate the impact to scenic vistas and identify any conflicts with General Plan policies governing scenic quality in a Focused Environmental Impact Report (EIR).

b. *Less Than Significant Impact* – The project site does not contain any scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway corridor.

The site is essentially uniformly flat due to historic grading and it is currently vacant with non-native vegetation. The site has been designated for multifamily residential use under both the prior General Plan and the current Murrieta General Plan. Based on the existing site conditions, no scenic resources within the site would be damaged as a result of development of the proposed project. Therefore, a less than significant potential to damage a scenic resource will occur from project implementation and any impacts under this issue are considered less than significant.

c. *Less Than Significant With Mitigation Incorporated* – The project site is located within an urbanized area as shown on Figure 2. The Murrieta General Plan designates the project site for ~~Multifamily~~ Multiple-Family Residential Use and the zoning classification is the same. By developing this vacant site in accordance with City General Plan and design guidelines for multi-family uses (Murrieta Development Code (MDC) 16.08.040 Multi-family Residential Design Standards) and development plans (16.56.040 C Development Plan Permits), the visual character of this site and its surroundings will be converted to an urban residential visual setting consistent with surrounding single family and multifamily residences. With the City's design elements incorporated in the Project, implementation of the proposed project will be consistent with the surrounding urban setting and the potential aesthetic impacts to the site will result in a less than significant impact. In addition to the long-term visual effect, the City's General Plan EIR requires three mitigation measures to be implemented by projects to minimize visual impacts during construction. These are measures AES-1, AES-2, and AES-3 from the General Plan EIR.

d. *Less Than Significant Impact* – The implementation of the proposed project will create new sources of light during the operational phases of the Project. Light and glare from interior and exterior building lighting, safety and security slighting, and vehicular traffic accessing the site will occur once the site is occupied. The proposed project must be developed in accordance with the City's MDC, which would ensure that any building or parking area lighting would not significantly impact adjacent uses. Thus, the proposed project will introduce a new source of light into the project area, but design requirements will limit the lighting impacts to the project site. To ensure that light does not result in intrusive lighting, the project must comply with the City's requirements (General Plan EIR and related policies under Aesthetics, Section 5) that lighting be restricted to the project site through shielding and directing light downward, and compliance with Mt. Palomar lighting standards (MDC Section 16.18,100 (Lighting) and MDC Section 16.18.110 (Mount Palomar Lighting Standards)). Thus, potential adverse Impacts under this topic will be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
II. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California 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 in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – The General Plan identified a total of 2,234 acres within the City Limits as supporting agricultural or mining uses. According to Figure 5.11-1, *Important Farmland (2008)* of the General Plan Environmental Impact Report (GPEIR), the proposed Project site is identified as Other Land by the California Department of Conservation (Figure II-1). The Final EIR for the Murrieta General Plan 2035 states that a potentially significant impact could occur if a project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Because there are no agricultural uses located within the project site and the existing land use designation on the project site is not agricultural in nature (~~Multifamily~~ Multiple-Family Residential), the onsite soils are not considered prime or important agricultural soils as the site has undergone past grading which eliminated any of the native soil characteristics. The only prime soils in the City are located in the northern portion of the City, not in the project area. Therefore, implementation of the proposed project and conversion

of the project site to the proposed multi-family residential uses will not pose any significant adverse impact to agricultural resources or values. No mitigation is required.

b. *No Impact* – Implementation of the proposed project will not conflict with existing agricultural zoning (~~Multifamily~~ Multi-Family – 1, Residential), agricultural use, or a Williamson Act contract. According to Figure 5.11-2 *Williamson Act Farmland (2006)* of the GPEIR, the proposed project site is not part of Williamson Act contract acreage. Please reference the discussion in II(a), above. Based on this information, the proposed project will not conflict with existing zoning for agricultural use, or a Williamson Act contract. No adverse impacts are anticipated and no mitigation is required.

c. *No Impact* – The project site is not located within forest land, timberland or timberland zoned for Timberland Production. Therefore, the proposed project will not 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 adverse impacts are anticipated and no mitigation is required.

d. *No Impact* – The project site is not located within forest land and has no commercial forest trees on the property; therefore, the project will not result in the loss of forest land or conversion of forest land to non-forest production use. No adverse impacts are anticipated and no mitigation is required.

e. *No Impact* – Implementation of the proposed project will not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of valuable farmland to non-agricultural use or forest to non-forest uses. No agricultural or forest resources or uses occur onsite or within the general vicinity of the proposed project site. Therefore, no adverse impacts to agricultural, forest or timberland resources will result from project implementation and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

SUBSTANTIATION: An Air Quality Impact Analysis (AQIA) was prepared for the proposed project and provided as Appendix 1 to this Initial Study titled "Tentative Parcel Map No. 30394, Air Quality Impact Analysis, City of Murrieta" prepared by Urban Crossroads dated October 7, 2019.

Background

The project is located within the City of Murrieta in the portion of Riverside County that lies within the South Coast Air Basin (Basin or SCAB). The project area is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Basin is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and all of Orange County.

The ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

The annual average temperatures throughout the SCAB vary from the low to middle 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Because the State of California had established Ambient Air Quality Standards (AAQS) several years before the federal action establishing National Ambien Air Quality Standards (NAAQS) and because of unique air quality problems introduced by the restrictive dispersion meteorology and topography, there is considerable difference between state and national clean air standards. Those standards currently in effect in California and the nation are shown in Table III-1. Sources and health effects of various pollutants are shown in Table III-2.

Table III-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter (PM2.5)[9]	24 Hour	–	–	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15.0 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	–	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Flourescense; Spectrophotometry (Paraosaniline Method)
	3 Hour	–		–	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Lead 8[12,13]	30-Day Average	1.5 µg/m^3	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Avg	–		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No Federal Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Footnotes

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year, with a 24-hour average concentration above 150 $\mu g/m^3$, is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9 On December 14, 2012, the national PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primarily and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primarily and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11 On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 j.tg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Table III-2
HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Fine Particulate Matter (PM-10)	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	• Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.	• Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Regional Air Quality

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: carbon monoxide, lead, ozone, particulate matter, nitrogen dioxide, and sulfur dioxide which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb (lead) air monitoring sites throughout the air district. On February 21, 2019, CARB posted the 2018 amendments to the state and national area designations. Table III-3 outlines the attainment designations for SCAB.

Table III-3
SOUTH COAST AIR BASIN EMISSIONS FORECASTS (EMISSIONS IN TONS/DAY)

Pollutant	State Status	National Status
Ozone – 1-hour standard	Nonattainment	—
Ozone – 8-hour standard	Nonattainment	Nonattainment
Carbon monoxide	Attainment	Attainment/Unclassified
Nitrogen dioxide	Attainment	Attainment/Unclassified
Sulfur dioxide	Attainment	Attainment/Unclassified
PM10	Nonattainment	Attainment
PM2.5	Nonattainment	Nonattainment
Lead[1]	Attainment	Attainment/Unclassified

Notes: (1) Source of Federal and State status: California Air Resources Board October 2018.
Note: See Appendix 2.1 (part of Appendix 2, AQIA) for a detailed map of State/National Area Designations within the SCAB
"—" = The national 1-hour O3 standard was revoked effective June 15, 2005.
[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

Local Air Quality

The Project site is located within Source Receptor Area (SRA) 26. Within SRA 26, the SCAQMD Temecula Valley monitoring station, located 8.58 miles east of the Project site, is the nearest long-term air quality monitoring station for O3, CO, NO2, and PM10. The Temecula Valley monitoring station does not include data for CO, NO2, and PM2.5. As such, the next nearest monitoring stations were used: the Elsinore Valley monitoring station, located in SRA 25, is the next nearest monitoring station for CO and NO2, and is located approximately 9.58 miles northwest of the Project site; and the Metropolitan Riverside County monitoring station is located within SRA 23, roughly 31.23 miles northwest of the Project site, and is the nearest station that monitors PM2.5.

The most recent three (3) years of data available is shown on Table III-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Data for O3, CO, NO2, PM10, and PM2.5 for 2016 through 2018 was obtained from the SCAQMD Air Quality Data Tables. Additionally, data for SO2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO2 concentrations.

Table III-4
AIR QUALITY MONITORING SUMMARY[1]

Pollutant/Standard[2]		2016	2017	2018
Ozone	Max. 1-Hour Conc. (ppm)	0.123	0.112	0.116
	Days > State 1-hr Standard (0.09 ppm)	15	23	16
	Max. 8-Hour Conc. (ppm)	0.093	0.098	0.095
	Days > State/Federal 8-hr Standard (0.070 ppm)	45	54	30
Carbon Monoxide[3]	Max. 8-Hour Conc. (ppm)	*	*	*
	Days > CAAQS (9 ppm)	0	0	0
	Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide[3]	Max. 1-Hour Conc. (ppm)	0.051	0.049	0.041
	Days > CAAQS (0.18 ppm)	0	0	0
Inhalable Particulates (PM-10)[3]	Max. 24-Hr. Conc. ($\mu g/m^3$)	90.7	99.7	134.1
	Days > NAAQS (150 $\mu g/m^3$)	0	0	0
	Days > CAAQS (50 $\mu g/m^3$)	*	*	*
	Annual Average ($\mu g/m^3$)	33.1	32.3	32.6
Ultra-Fine Particulates (PM-2.5)	Max. 24-Hr. Conc. ($\mu g/m^3$)	26.9	21.6	26.5
	Days > NAAQS (150 $\mu g/m^3$)	*	*	*
	Annual Average ($\mu g/m^3$)	*	10	71

$\mu g/m^3$ = Microgram per Cubic Meter
Source: Data for O3, CO, NO2, PM10, and PM2.5 was obtained from SCAQMD Air Quality Data Tables.

Standards of Significance

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 CCR §§15000, et seq.), which are listed at the beginning of this section.

The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table III-5. The SCAQMD's CEQA Air Quality Significance Thresholds (March 2015) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

Table III-5
MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Construction Thresholds	Operations Thresholds
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

lbs/day = Pounds Per Day
Source: Regional Thresholds presented in this table are based on the SCAQMD Air Quality Significance Thresholds, March 2015

Impact Analysis

a. *Less Than Significant Impact* – Projects such as the proposed Nutmeg Apartment Project do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing general development. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as, explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993) (34). These indicators are:

Consistency Criterion No. 1: The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations could occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1
Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if LSTs or regional significance thresholds were exceeded. As evaluated, the Project's regional and localized construction-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

Operational Impacts – Consistency Criterion 1
As evaluated, the Project's regional and localized operational-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

Conclusion
On the basis of the preceding discussion, the Project is determined to be consistent with the first criterion.

Consistency Criterion No.2: The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Murrieta General Plan is considered to be consistent with the AQMP*.*

Construction Impacts – Consistency Criterion 2
Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities.

Operational Impacts – Consistency Criterion 2

The City of Murrieta General Plan designates the Project site as MFR. The MFR designation provides for attached and detached apartments and condominiums. Typical development consists of townhomes, condominiums, apartments, senior housing, and stacked flats. MFR encourages the development of integrated projects that provide complementary open spaces and amenities on-site. As previously stated, the total development is proposed to consist of 210 market rate apartments. The uses proposed by the Project are consistent with the City's land use designation. Additionally, the Project's construction and operational-source air pollutant emissions would not exceed the regional or localized significance thresholds. On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

AQMP Consistency Conclusion and Significance Determination

The Project would not result in or cause NAAQS or CAAQS violations. The proposed Project is consistent with the land use and growth intensities reflected in the adopted General Plan. Furthermore, the Project would not exceed any applicable regional or local thresholds. As such, the Project is therefore considered to be consistent with the AQMP, and as such would have a less than significant potential to conflict with or obstruct implementation of the applicable air quality plan.

b. *Less Than Significant With Mitigation Incorporated* – Air pollution emissions associated with the proposed Project would occur over both a short and long-term time period. Short-term emissions include fugitive dust from construction activities (i.e., site prep, demolition, grading, and construction-equipment exhaust emission) at the proposed Project sites. Long-term emissions generated by future operation/occupancy of the proposed Project primarily include energy consumption and mobile source emissions from trips generated by the future development.

Construction Emissions

Construction activities associated with the Project will result in emissions of VOCs, NOX, SOX, CO, PM10, and PM2.5. Construction related emissions are expected from the following construction activities: Site Preparation; Grading; Building Construction; Paving; and, Architectural Coating.

Grading Activities

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions". Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. Based on information provided by the Project applicant, the Project is expected to require 12,358 cubic yards (CY) of cut and 52,173 CY of fill. For purposes of analysis, this AQIA analyzes 39,815 CY of import and the CalEEMod default trip length for hauling activities of 20 miles.

Construction Worker Vehicle Trips

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information from CalEEMod defaults.

Construction Duration

Construction is expected to commence in April 2021 and will last through September 2022. The construction schedule utilized in the analysis, shown in Table III-6, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines. The duration of construction activity was based on the 2022 opening year.

Table III-6
CONSTRUCTION DURATION

Phase Name	Duration
Site Preparation	10
Grading	30
Building Construction	300
Paving	20
Architectural Coating	20

Source: Construction activity based on the 2022 opening year.

Construction Equipment
Site specific construction fleet may vary due to specific project needs at the time of construction. The associated construction equipment was generally based on CalEEMod 2016.3.2 defaults. A detailed summary of construction equipment assumptions by phase is provided at Table III-7.

Table III-7
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Activity	Equipment	Amount	Hours per Day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
Building Construction	Cranes	1	8
	Crawler Tractors	3	8
	Forklift	3	8
	Generator Sets	1	8
	Welders	3	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

Source: In order to account for fugitive dust emissions associated with Site Preparation and Grading activities, Crawler Tractors were used in lieu of Tractors/Loaders/Backhoes.

Construction Impacts with Mitigation
Although mitigation is not needed to reduce estimated maximum daily construction regional emissions, mitigation measures would be required to decrease localized emissions (please refer to the subsequent discussions at “Localized Significance”). Detailed construction model outputs are presented in Appendix 3.2 of the AQIA. Implementation of these localized emissions mitigation measures would further reduce already less than significant regional emissions as indicated at Table III-8.

Table III-8
CONSTRUCTION EMISSIONS (MITIGATED)

Year	Emissions (lbs/day)					
	VOC	NOx	CO	SO_X	PM-10	PM-2.5
Summer						
2020	4.88	84.61	38.61	0.20	7.80	4.24
2021	67.41	34.77	32.03	0.08	4.17	2.02
Winter						
2020	4.92	84.86	39.26	0.20	7.80	4.24
2021	67.41	34.75	30.68	0.08	4.17	2.02
Maximum Daily Emissions	**67.41**	**84.86**	**39.26**	**0.20**	**7.80**	**4.24**
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds Thresholds?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod construction-source (mitigated) emissions are presented in Appendix 3.2.

It should be noted that mitigation is not needed to reduce estimated maximum daily construction regional emissions. However, mitigation measures **AQ-1** would be required to decrease localized emissions, discussed under issue III(c), below.

AQ-1 ***During the site preparation phase, construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall ensure that off-road diesel construction equipment that complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.***

AQ-2 ***During site preparation and grading activity all actively graded areas within the Project site shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12% is maintained for actively graded areas. Moisture content can be verified with use of a moisture probe by the grading contractor.***

Operational Emissions
Operational activities associated with the proposed Project will result in emissions of VOCs, NOX, SOX, CO, PM10, and PM2.5. Operational emissions would be expected from the following primary sources: Area Source Emission, Energy Source Emissions, and Mobile Source Emissions.

Area Source Emissions
Architectural Coatings: Over a period of time the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using CalEEMod.

Consumer Products: Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

Hearths/Fireplaces: The emissions associated with use of hearths/fireplaces were calculated based on assumptions provided in the CalEEMod model. The Project is required to comply with SCAQMD

Rule 445, which prohibits the use of wood burning stoves and fireplaces in new development. In order to account for the requirements of this Rule, the unmitigated CalEEMod model estimates were adjusted to remove wood burning stoves and fireplaces. As the project is required to comply with SCAQMD Rule 445, the removal of wood burning stoves and fireplaces is not considered "mitigation" although it must be identified as such in CalEEMod in order to treat the case appropriately.

Landscape Maintenance Equipment: Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

Energy Source Emissions
Combustion Emissions Associated with Natural Gas and Electricity: Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using CalEEMod.

Title 24 Energy Efficiency Standards: California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity. The 2019 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2020. As such, the analysis herein assumes compliance with the 2019 Title 24 Standards because the Project will be constructed after January 1, 2020.

Mobile Source Emissions
Project mobile source air quality impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project-related operational air quality impacts are derived primarily from vehicle trips generated by the Project. Trip characteristics available from the TIA report were utilized in this analysis (26).

Fugitive Dust Related to Vehicular Travel: Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of break and tire wear particulates. The emissions estimates for travel on paved roads were calculated using CalEEMod.

Operational Impacts Without Mitigation
As previously stated, CalEEMod calculates maximum daily emissions for summer and winter periods. As such, operational activities for summer and winter scenarios are presented in Table III-9. Detailed construction model outputs are presented in Appendix 3.1 of the AQIA. As indicated, Project operation-source emissions would not exceed the SCAQMD regional thresholds of significance for any criteria pollutants. Therefore, a less than significant impact is expected, and no mitigation measures are required.

Table III-9
OPERATIONAL EMISSIONS (UNMITIGATED)

Operational Activities – Summer Scenario	Emissions (lbs/day)					
	VOC	NOx	CO	SO_X	PM-10	PM-2.5
Area Source	5.12	0.20	17.39	9.20e-40	0.10	0.10
Energy Source	0.09	0.79	0.34	5.04e-03	0.06	0.06
Mobile Source	3.21	23.11	38.35	0.17	12.57	3.43
Total Maximum Daily Emissions	**8.42**	**24.10**	**56.08**	**0.17**	**12.73**	**3.59**
SCAQMD Thresholds	55	100	550	150	150	55
Exceeds Thresholds?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Operational Activities – Winter Scenario	Emissions (lbs/day)					
	VOC	NOx	CO	SO_X	PM-10	PM-2.5
Area Source	5.12	0.20	17.39	9.20e-40	0.10	0.10
Energy Source	0.09	0.79	0.34	5.04e-03	0.06	0.06
Mobile Source	2.72	23.10	33.14	0.15	12.57	3.44
Total Maximum Daily Emissions	**7.94**	**24.09**	**50.87**	**0.16**	**12.73**	**3.60**
SCAQMD Thresholds	55	100	550	150	150	55
Exceeds Thresholds?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod construction-source (mitigated) emissions are presented in Appendix 3.2.

Conclusion

With the incorporation of mitigation measures **AQ-1** and **AQ-2**, the development of the Washington/Nutmeg Multifamily Development Project would have a less than significant potential to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.

c. *Less Than Significant With Mitigation Incorporated* – The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. The significance of localized emissions impacts depends on whether ambient levels in the vicinity of any given project are above or below State standards. In the case of CO and NO2, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM10 and PM2.5; both of which are non-attainment pollutants.

LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

Sensitive Receptors

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as “sensitive receptors”. These structures typically include residences, hotels, hospitals, etc. as they are also known to be locations where an individual can remain for 24 hours. Consistent

with the LST Methodology, the nearest land use where an individual could remain for 24 hours to the Project site (in this case the nearest residential land use) has been used to determine construction and operational air quality impacts for emissions of PM10 and PM2.5, since PM10 and PM2.5 thresholds are based on a 24 hour averaging time.

Commercial and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for eight hours or less. The LST Methodology explicitly states that "LSTs based on shorter averaging periods, such as the NO2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours." Consistent with the LST Methodology, the nearest industrial/commercial use to the Project site is used to determine construction and operational LST air impacts for emissions of NO2 and CO.

Project-Related Sensitive Receptors

Sensitive receptors in the vicinity of the Project site are illustrated at Exhibit 3-A and include residential uses as described below. Localized air quality impacts were evaluated at sensitive receptor land uses nearest the Project site.

To assess the stationary source operational and construction air impacts, the following five sensitive receptor locations were identified.

- R1: Located approximately 49 feet northwest of the Project site, R1 represents existing residential homes on Yukon Court.
- R2: Located approximately 38 feet northwest of the Project site, R2 represents existing residential homes on Mountain Song Loop.
- R3: Location R3 represents the existing residential homes located roughly 51 feet northeast of the Project site on Grand View Drive.
- R4: Location R4 represents the Church of Jesus Christ of Latter-day Saints located roughly 805 feet southeast of the Project site.
- R5: Location R4 represents existing residential homes located roughly 112 feet east of the Project site along Washington Avenue.

The same 25-meter distance used in evaluation of PM10 and PM2.5, will be used to evaluate construction and operational air quality impacts for emissions of NO2 and CO.

LST Construction Activities

Since the total acreage disturbed is less than five acres per day for the site preparation phase and the grading phase, the SCAQMD's screening look-up tables are utilized in determining impacts.

Table III-10
MAXIMUM DAILY LOCALIZED EMISSIONS THRESHOLDS

Pollutant	Construction	Operations
NOx	303 lbs/day (Site Preparation)	N/A
	325 lbs /day (Grading)	
CO	1,533 lbs /day (Site Preparation)	N/A
	1,677 lbs /day (Grading)	
PM10	10 lbs /day (Site Preparation)	N/A
	11 lbs /day (Grading)	
PM2.5	6 lbs /day (Site Preparation)	N/A
	7 lbs /day (Grading)	

Table III-11 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Without mitigation, localized construction emissions would exceed the applicable SCAQMD LSTs for emissions of PM10 and PM2.5. Outputs from the model runs for unmitigated construction LSTs are provided in Appendix 3.1 of the AQIA.

Table III-12 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. **MM AQ-1** is recommended to reduce the impacts during site preparation. After implementation of MM AQ-1, construction emissions would not exceed the applicable SCAQMD LSTs for any criteria pollutant. **MM AQ-1** requires that during the site preparation phase, construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall ensure that off-road diesel construction equipment that complies with EPA/CARB Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications. Therefore, a less than significant impact would occur. It should be noted that as this mitigation measure is not applicable to grading activities, grading emissions are omitted from the "Impacts with Mitigation" results.

Table III-11
LOCALIZED SIGNIFICANCE SUMMARY OF CONSTRUCTION (WITHOUT MITIGATION)

On-Site Site Preparation Emissions	Emissions (lbs/day)			
	NOx	CO	PM-10	PM-2.5
Maximum Daily Emissions	**60.71**	**21.83**	**11.14**	**6.46**
SCAQMD Thresholds	303	1,533	10	6
Exceeds Thresholds?	**NO**	**NO**	**YES**	**YES**

On-Site Grading Emissions	Emissions (lbs/day)			
	NOx	CO	PM-10	PM-2.5
Total Maximum Daily Emissions	**56.51**	**32.21**	**6.29**	**3.57**
SCAQMD Thresholds	325	1,677	11	7
Exceeds Thresholds?	**NO**	**NO**	**NO**	**NO**

Table III-12
LOCALIZED SIGNIFICANCE SUMMARY OF CONSTRUCTION (WITH MITIGATION)

On-Site Site Preparation Emissions	Emissions (lbs/day)			
	NOx	CO	PM-10	PM-2.5
Maximum Daily Emissions	**39.50**	**26.03**	**7.24**	**4.19**
SCAQMD Thresholds	303	1,533	10	6
Exceeds Thresholds?	**NO**	**NO**	**NO**	**NO**

LST Long-Term Operational Activity
The development of the proposed project is located on 14.4 acres. As previously stated, the total development is proposed to consist of 210 market rate apartments. According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed Project, if the Project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed project does not include such uses, and thus, due to the lack of significant stationary source emissions, no long-term localized significance threshold analysis is needed.

CO "Hot Spot" Analysis
As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. Please refer to the AQIA for a detailed analysis of how CO "hot spots" are determined. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. The volume of traffic required at a given intersection to create a CO "hot spot" is quite large when compared to the traffic that would be generated by the proposed project (discussed further under the Transportation section, below). For instance, should daily traffic volume equal 400,000 vehicles per day, the CO concentration would only equal 18.4 ppm, which would not exceed the most stringent 1-hour CO standard of 20.0 ppm. For reference, the highest trips on a segment of road for the Project is 23,600 vehicles per day on Washington Avenue and Calle Del Oso Oro/Nutmeg Street. As such, CO "hot spots" are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

Conclusion
With the incorporation of mitigation measure **AQ-1**, the development of the Nutmeg Apartment Project would have a less than significant potential to expose sensitive receptors to substantial pollutant concentrations.

d. *Less Than Significant Impact* – The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include: Agricultural uses (livestock and farming); Wastewater treatment plants; Food processing plants; Chemical plants; Composting operations; Refineries; Landfills; Dairies; and, Fiberglass molding facilities. The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short- term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required.

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

SUBSTANTIATION: The following information is provided based on a study titled “Biological Resources Assessment and MSHCP Consistency for the Vesting Tentative Parcel Map 30394 (VTPM 01-194)/ Development Plan (01-195)” prepared by Jacobs Engineering Group, Inc. dated September 2019 (Appendix 2). The following information is abstracted from the Biological Resources Assessment (BRA):

Summary of Findings

Sensitive Biological Resources
A biological resources assessment survey was conducted by Jacobs biologist Lisa Patterson on July 17, 2019, to identify potential suitable habitat for special status species that have been documented within the Project vicinity including the State- and/or federally-listed species discussed in Section 3.2, as well as burrowing owl (BUOW). The result of the survey is that no listed plant or animal species were detected on site and none are expected to occur. The Project site is within a completely disturbed area consisting of a previously graded and mowed 14.4-acre vacant parcel, surrounded by existing development. Due to the conditions on site and surrounding land uses, the site is not suitable to support any of the listed species that have been documented within the Project vicinity, including the federally-listed as threatened Coastal California Gnatcatcher (CAGN), and no protocol-level sensitive species surveys are warranted or recommended.

Burrowing Owl

The result of BUOW habitat suitability assessment survey conducted on July 17, 2019, was that no BUOW individuals or sign were observed within the Project Area during the survey. Furthermore, no suitably- sized burrows or burrow surrogates were found on site. Therefore, BUOW are considered absent from the Project area at the time of survey and the Project is not likely to impact this species.

According to protocol and standard practices, the results of the habitat assessment survey will remain valid for the period of one year, or until July 2020, after which time, if the site has not been disturbed in the interim, another survey may be required to determine the persisting absence of BUOW on-site. Regardless of survey results and conclusions given herein, BUOW are protected by applicable State and/or federal laws, including but not exclusive to the FGC and MBTA. As such, if BUOW are found on-site during work activities, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions.

Nesting Birds

Although the project site is within an urban environment, it is still potentially suitable to support nesting birds, including open ground nesters such as killdeer (*Charadrius vociferus*). As discussed, most birds are protected by the MBTA. In general, impacts to all bird species (common and special status) can be avoided by conducting initial clearing/grubbing work outside of the nesting season, which is generally February to September. However, if all clearing/grubbing work cannot be conducted outside of nesting season, mitigation is required.

MSHCP Consistency Analysis

The Project is consistent with the MSHCP policies found Section 6 which include Riparian/Riverine Areas/ Vernal Pools, Narrow Endemic Plant Species, Urban/Wildlands Interface, and Surveys for Special Status Species (BUOW):

- The site is not mapped within any MSHCP Criteria Cell or Subunit.
- The site is not located in an area where additional surveys are required for any Amphibian, Mammal or other Criteria Area Species.
- The Project will not impact any Riparian/Riverine or Vernal Pool areas.
- The site is not within or adjacent any MSHCP Conservation Areas and therefore does not require mitigation measures pursuant to Section 6.1.4 (pertaining to Urban/Wildlands Interface) of the MSHCP, which presents guidelines to minimize indirect effects of projects in proximity to the MSCHP Conservation Areas.
- The site is located within a BUOW survey area, as required by the MSHCP. However, a BUOW habitat suitability assessment was conducted and the result of survey was that no suitable BUOW habitat exists on site and this species is considered absent from the Project Area at the time of survey.
- The site is not located within a Narrow Endemic Plant Species survey area.

Impact Analysis

a. *Less Than Significant Impact* – Implementation of the Project does not have a potential for a significant adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) (*formerly Department of Fish and Game)* or U.S. Fish and Wildlife Service (USFWS). As discussed above, the proposed project does not contain habitat suitable for the burrowing owl within the project site; no suitably-sized burrows or burrow surrogates were found on site. Therefore, BUOW are considered absent from the Project area at the time of survey and the Project is not likely to impact this species. However, the Applicant is required to cease construction if BUOW are found on-site during work activities, and regulatory agencies must be contacted to determine appropriate management actions. This is required by law, and as such does not require mitigation to enforce. Given that no other State- and/or federally-listed threatened or endangered species, or other sensitive species are anticipated to occur within the project site, the proposed project would have a less than significant potential to have a substantial

adverse effect on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

b. *Less Than Significant Impact* – Implementation of the proposed project will not have an adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. Due to previous grading and periodic weed abatement activities, the site is completely disturbed and no longer supports any native habitat. The Project site is dominated by invasive, non-native and ruderal native plants. Additionally, there is a graded swale where onsite runoff likely collects within the northwest portion of the Project site that supports a small cluster of tree saplings including several willows (*Salix sp.*) and one cottonwood (*Populus fremontii*). The Project site is not located within or adjacent to critical habitat for any species. As such, based on the field survey conducted by Jacobs Engineering, Inc. and the information contained in Appendix 2, no significant impacts to riparian habitat or other sensitive communities are anticipated to occur as a result of implementation of the proposed Project.

c. *No Impact* – According to the data gathered by Jacobs in Appendix 2, no jurisdictional features subject to the Clean Water Act (CWA) or Fish and Game Commission (FGC) under the jurisdictions of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or California Department of Fish and Wildlife (CDFW) exist within the Project area. The biologist did not find any Waters of the US, Waters of the State, or SWRMSHCP Riparian, Riverine, or Vernal Pool Habitat on the site. Given that the project site is located entirely outside of any jurisdictional areas, no permanent or temporary impacts to jurisdictional features will result from the Project. Therefore, no permits or authorizations from the USACE, RWQCB, or CDFW will be required. As such, given that no federally protected wetlands occur within the Project footprint, implementation of the proposed Project will have no potential to impact any federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No mitigation is required.

d. *Less Than Significant With Mitigation Incorporated* – Based on the field survey of the project site, the Project will not substantially interfere with the movement of any native resident or migratory species or with established native or migratory wildlife corridors, or impede the use of native nursery sites. However, the vegetation on site does have a potential to support nesting birds, including open ground nesters, such as killdeer (*Charadrius vociferus*). Furthermore, the State does protect all migratory and nesting native birds. Habitat suitable for nesting birds does exist within the project site and adjacent areas. As discussed, most birds are protected by the Migratory Bird Treaty Act (MBTA). To prevent interfering with native bird nesting, the following mitigation measure shall be implemented.

BIO-1 ***Bird nesting season generally extends from February 1 through September 15 in southern California and specifically, April 15 through August 31 for migratory passerine birds. To avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist shall conduct pre-construction nesting bird survey prior to project-related disturbance to identify any active nests. If no active nests are found, no further action would be required. If an active nest is found, the biologist shall set appropriate no-work buffers around the nest which would be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.***

With implementation of the above measure, any effects on wildlife movement or the use of wildlife nursery sites can be reduced to a less than significant impact.

e. *No Impact* – The project area supports a small cluster of tree saplings including several willows (*Salix sp*.) and one cottonwood (*Populus fremontii*). It is not believed that any of these trees would fall under the City of Murrieta's Tree Preservation Ordinance (Municipal Code Section 16.42). Therefore, the project would not have a significant impact on trees. Implementation of the proposed project has no potential to adversely impact any trees protected by the City of Murrieta's Tree Ordinance, and it will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impacts are anticipated and no mitigation is required.

f. *Less Than Significant Impact* – The project site is not mapped within a critical cell of the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP), and is therefore not targeted for conservation. However, the plan requires that a project comply with the plan policies identified in Section 6 of the Plan. This project must comply with the following policies: (1) Riparian/Riverine Areas/ Vernal Pools; (2) Narrow Endemic Plant Species (List 4); (3) Urban/Wildlands Interface; (4) Amphibian, Mammal, and Other Criteria Area Species; and, (5) Surveys for Special Status Species (burrowing owls), which have been determined absent from the site. The Project will comply with these policies of the MSHCP. Therefore, the proposed project has a less than significant potential to adversely impact any locally protected species. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

SUBSTANTIATION: A cultural resources report has been prepared to evaluate the potential for cultural resources to occur within the project area of potential effect entitled "Historical/Archaeological Resources Survey Report: Tentative Parcel Map Number 30394, Assessor's Parcel Numbers 906-020-012, -013, -091, and -92, City of San Murrieta, Riverside County, California" prepared by CRM TECH dated October 3, 2019 (Appendix 3). The following summary information has been abstracted from this report. It provides an overview and findings regarding the cultural resources found within the project area.

Background

As a part of the environmental review process for the undertaking, a Historical/Archaeological Resources Survey Report was prepared to in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the City with the necessary information and analysis to determine whether the proposed Project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

In order to identify such resources, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, contacted Native American representatives, and carried out an intensive-level field survey of the entire project area. Through the various avenues of research, this study did not encounter any "historical resources" within or adjacent to the project area. The State of California Native American Heritage Commission, however, states that the Sacred Lands File maintained by the Commission indicated the presence of unspecified Native American cultural resource(s) in the general vicinity of the project location and refers further inquiry to the Pechanga Band of Luiseño Indians.

During the course of the study, the Pechanga Band of Luiseño Indians was contacted in writing for pertinent information and participated in the archaeological fieldwork, but has not provided any information on potential Native American cultural resources in or near the project area through the cultural resources study.

Based on these findings, CRM TECH recommends to the City of Murrieta an initial conclusion of No Impact on cultural resources, pending completion of the AB 52 consultation process. No additional cultural resources investigation is recommended for the project unless development plans undergo such changes as to include areas not covered by this study. If buried cultural materials are encountered inadvertently during any earth-moving operations associated with the project, however, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

a&b. *Less Than Significant With Mitigation Incorporated* – The Historical and Archaeological Resources Survey Report ("Historical/Archaeological Resources Survey Report, Tentative Parcel Map Number 30394t") summarizes the findings of a cultural resources records search and field survey that was completed for this Project. The cultural resources report concluded that there are no such resources within the site, and as such no further cultural resources have been identified as being located on site. CEQA establishes that "a project that may cause a substantial adverse change in the

significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

Per the above discussion and definition, no historical or archaeological sites or isolates were located within the Project boundaries; thus, none of them requires further consideration during this study.

In light of this information and pursuant to PRC §21084.1, the following conclusions have been reached for the Project:

- No historical resources within or adjacent to the Project area have any potential to be disturbed as they are not within the proposed area in which the facilities will be constructed and developed, and thus, the Project as it is currently proposed will not cause a substantial adverse change to any known historical resources.
- No further cultural resources investigation is necessary for the proposed project unless construction plans undergo such changes as to include areas not covered by this study.

However, if buried cultural materials are accidentally exposed/discovered during any earth-moving operations associated with the Project, the following contingency mitigation measure shall be implemented:

CUL-1 Should any subsurface or other cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the City's onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

With the above contingency mitigation incorporation, potential for impact to cultural resources will be reduced to a less than significant level. No additional mitigation is required.

c. *Less Than Significant Impact* – As noted in the discussion above, no available information suggests that human remains may occur within the project area of potential effect (APE) and the potential for such an occurrence is considered very low. Human remains discovered during the project will need to be treated in accordance with the provisions of HSC §7050.5 and PRC §5097.98, which is mandatory. State law (Section 7050.5 of the Health and Safety Code) as well as local laws requires that the Police Department, County Sheriff, and Coroner's Office receive notification if human remains are encountered. Compliance with these laws is considered adequate mitigation for potential impacts and no further mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VI. ENERGY: Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

SUBSTANTIATION: An Energy Analysis prepared for the proposed project is titled "Tentative Parcel Map No. 30394, Energy Analysis, City of Murrieta" prepared by Urban Crossroads dated October 7, 2019 (Appendix 4).

Existing Conditions

The most recent data for California's estimated annual energy use is from 2019 and included:

- Approximately 7,881 trillion British Thermal Unit (BTU) of energy was consumed;
- Approximately 2,115 billion cubic feet of natural gas; and
- Approximately 15.8 billion gallons of transportation fuel (for the year 2017)

The most recent data provided by the United States Energy Information Administration (EIA) for energy use in California by demand sector is from 2017 and is reported as follows:

- Approximately 40.3 percent transportation;
- Approximately 23.1 percent industrial;
- Approximately 18.0 percent residential; and
- Approximately 18.7 percent commercial

In 2018, total system electric generation for California was 285,488 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 194,842 GWh which accounted for approximately 68% of the electricity it uses; the rest was imported from the Pacific Northwest (14%) and the U.S. Southwest (18%). Natural gas is the main source for electricity generation at 47% of the total in-state electric generation system power as shown in Table VI-1.

Table VI-1
TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2018)

Fuel Type	CA In-State Generation (GWh)	Percent of CA In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	CA Power Mix (GWh)	Percent CA Power Mix (GWh)
Coal	294	0.15%	399	8,740	9,433	3.30%
Large Hydro	22,096	11.34%	7,418	985	30,499	10.68%
Natural Gas	90,691	46.54%	49	8,904	99,644	34.91%
Nuclear	18,268	9.38%	0	7,573	25,841	9.05%
Oil	35	0.02%	0	0	35	0.01%
Other	430	0.22%	0	9	439	0.15%
Renewables	63,028	32.35%	14,074	12,400	89,502	31.36%
Biomass	5,909	3.03%	772	26	6,707	2.35%
Geothermal	11,528	5.92%	171	1,269	12,968	4.54%
Small Hydro	4,248	2.18%	334	1	4,583	1.61%

Fuel Type	CA In-State Generation (GWh)	Percent of CA In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	CA Power Mix (GWh)	Percent CA Power Mix (GWh)
Solar	27,265	13.99%	174	5,094	32,533	11.40%
Wind	14,078	7.23%	12,263	6,010	32,711	11.46%
Unspecified	N/A	N/A	17,576	12,519	30,095	10.54%
Total	**194,843**	**100%**	**39,517**	**51,130**	**285,488**	**100%**

Source: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

A summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the fourth-largest producer of crude oil among the 50 states in 2017, after Texas, North Dakota, and Alaska, and, as of January 2018, third in oil refining capacity after Texas and Louisiana.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2016.
- California's total energy consumption is second-highest in the nation, but, in 2016, the state's per capita energy consumption ranked 48th, due in part to its mild climate and its energy efficiency programs.
- In 2017, California ranked second in the nation in conventional hydroelectric generation and first as a producer of electricity from solar, geothermal, and biomass resources.
- In 2017, solar PV and solar thermal installations provided about 16% of California's net electricity generation.

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed Project being of residential use, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the residential use planned for the Project.

Electricity

The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station.

Electricity is provided to the Project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. SCE derives electricity from varied energy resources including fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator (ISO) is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities (such as SCE) still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that sufficient power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and

assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities.

Table VI-2 identifies SCE's specific proportional shares of electricity sources in 2017. As indicated in Table VI-2, the 2017 SCE Power Mix has renewable energy at 32% of the overall energy resources. Geothermal resources are at 8%, wind power is at 10%, large hydroelectric sources are at 8%, solar energy is at 13%, and coal is at 0%. Biomass and waste sources have decreased to 0% from 1% in 2016. Natural gas is at 20% having decreased from 19% in 2016.

Table VI-2
SCE 2017 POWER CONTENT MIX

Energy Resources	2017 SCE Power Mix
Eligible Renewable	**32%**
Biomass & waste	0%
Geothermal	8%
Small Hydroelectric	1%
Solar	13%
Wind	10%
Coal	**0%**
Large Hydroelectric	**8%**
Natural Gas	**20%**
Nuclear	**6%**
Other	**0%**
Unspecified Sources of Power*	34%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

Natural Gas
Natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

Transportation Energy Sources
The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. In March 2018, the Department of Motor Vehicles (DMV) identified 35 million registered vehicles in California, and those vehicles (as noted previously) consume an estimated 19 billion gallons of fuel each year. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the Project patrons and employees via commercial outlets.

California's on-road transportation system includes 170,000 miles of highways and major roadways, more than 27 million passenger vehicles and light trucks, and almost 8 million medium- and heavy-duty vehicles. While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. Petroleum comprises about 92 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels. Nearly 19 billion gallons of on-highway fuel are burned each year, including 15.1 billion gallons of gasoline (including ethanol) and 3.9 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2016, Californians also used 194 million therms of natural gas as a transportation fuel, or the equivalent of 155 million gallons of gasoline.

Evaluation Criteria and Methodology

In compliance with Appendix G of the *State CEQA Guidelines,* this report analyzes the Project's anticipated energy use to determine if the Project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

In addition, Appendix F of the *State CEQA Guidelines,* states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Construction Energy Demands

The estimated power cost of on-site electricity usage during the construction of the proposed Project is assumed to be around $8,282.40. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project build-out, is calculated to be around 87,543 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 83,461 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Best available control measures inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the proposed Project would result in the estimated fuel consumption of 30,853 gallons of fuel. Additionally, fuel consumption from construction vendor trips (MHDTs and HHDTs) will total approximately 29,354 gallons. Diesel fuel would be supplied by City and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved through the use of bulk purchases, transport and use of construction materials. The 2018 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements. As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Operational Energy Demands

Transportation Energy Demands

Annual vehicular trips and related VMT generated by the operation of the Project would result in an estimated 157,317 gallons of fuel consumption per year for light duty autos (LDAs) for the year 2022.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other residential uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Ed., 2017); and CalEEMod. That is, the Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of LDAs to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely

decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building Standards Code, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands
Project facility operational energy demands are estimated at: 3,130,340 kBTU/year of natural gas; and 1,058,288 kWh/year of electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied by SCE. The Project proposes conventional residential uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the Project are not inherently energy intensive, and the Project energy demands in total would be comparable to, or less than, other residential projects of similar scale and configuration due to the more stringent building codes currently in place.

Impact Analysis

a. *Less Than Significant Impact* – As supported by the preceding analyses and contained within the Energy Analysis provided as Appendix 4, the proposed Project operations would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the energy demands of the proposed Project can be accommodated within the context of available resources and energy delivery systems. As such, the proposed Project would not cause or result in the need for additional energy production or transmission facilities. Additionally, the scenario proposed by the Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. Therefore, impacts under this issue are less than significant and no mitigation is required.

b. *Less Than Significant Impact* – The proposed Project is subject to California Building Code requirements. New buildings must achieve the 2019 Building and Energy Efficiency Standards and the 2019 California Green Building Standards requirements. The Project would provide for, and promote, energy efficiencies beyond those required under other applicable federal and State of California standards and regulations, and in so doing would meet or exceed all California Building Standards Code Title 24 standards. Moreover, energy consumed by the Project's operation is calculated to be comparable to, or less than, energy consumed by other residential, commercial, and recreational uses of similar scale and intensity that are constructed and operating in California. On this basis, the Project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Further, the Project would not cause or result in the need for additional energy producing facilities or energy delivery systems. Therefore, impacts under this issue are less than significant and no mitigation is required.

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

SUBSTANTIATION: A Geotechnical Evaluation report has been prepared to evaluate the potential geology and geotechnical constraints and impacts within the project area. The revised report is dated May 31, 2019 prepared by EEI Engineering Solutions (Appendix 5). The following summary information has been abstracted from this report. It provides an overview and findings regarding the geology and geotechnical constraints and impacts found within the project area.

a. i. Ground Rupture

Less Than Significant Impact – The Project site is located in the City of Murrieta, which is an area with several active faults, including two Alquist-Priolo Special Study Zones classified as such under the Alquist-Priolo Earthquake Fault Zoning Act. Figure VII-1 shows where these faults are located as indicated by the City of Murrieta General Plan 2035. According to Figure VII-1 and the Geotechnical Investigation (Figure VII-2), the site is not located within an Alquist-Priolo Special Study Zone, but is located about 0.28 mile southwest of the Alquist-Priolo Earthquake Fault Zone for the

Wildomar branch of the Elsinore Fault Zone. Based on this information, the risk for ground rupture at the site location is low; therefore, it is not likely that future occupants of the proposed Project will be subject to seismic hazards from rupture of a known earthquake fault. Therefore, any impacts under this issue are considered less than significant; no mitigation for fault rupture is required.

ii. Strong Seismic Ground Shaking

*Less Than Significant With Mitigation Incorporated – S*everal faults run through the City, and as with much of southern California, and the proposed structures will be subject to strong seismic ground shaking impacts (estimated to be about 0.834g at this site) should any major earthquakes occur in the future, particularly due to the site's proximity to the Elsinore Fault Zone, which at this location is classified as an Alquist-Priolo Earthquake Zone. Additionally, several active Fault Zones as defined by Riverside County travel throughout the City, particularly in the area of the City in which the Project site is located as shown in Figure VII-2 which depicts the City's General Plan Map of Riverside County Earthquake Fault Zones that traverse the City. As a result, and like all other development projects in the City and throughout the Southern California Region, the proposed Project will be required to comply with all applicable seismic design standards contained in the 2020 California Building Code (CBC), including Section 1613 Earthquake Loads. Compliance with the CBC will ensure that structural integrity of the occupied buildings will be maintained in the event of an earthquake. Furthermore, the Geotechnical Investigation concluded that no evidence of any fault line traversing the site could be found; however, the seismic design parameters outlined in the Geotechnical Report shall be enforced through the following mitigation measure:

GEO-1 Based upon the geotechnical investigation (Appendix 5 of this document), all of the recommended seismic design parameters identified in Appendix 5 (beginning on page 5) shall be implemented by the Applicant. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including seismic soil stability on future project-related structures.

With implementation of the mitigation measure above, impacts associated with strong ground shaking will be less than significant.

iii. Seismic-Related Ground Failure Including Liquefaction

*Less Than Significant With Mitigation Incorporated – T*he Geotechnical Investigation includes seismic design measures that apply to liquefaction potential (Figure VII-3). As such, the seismic design parameters identified in the Geotechnical Report and enforced through mitigation measure **GEO-1** above will minimize impacts related to liquefaction. Therefore, with the implementation of mitigation, the Project will have a less than significant potential to expose people or structures to substantial adverse liquefaction hazards, including the risk of loss, injury, or death involving landslides.

iv. Landslides

Less Than Significant Impact – According to the map prepared for the Murrieta General Plan 2035 State Seismic Hazards Map, the proposed project site is not located in an area with any known earthquake induced landslide hazards (Figure VII-4). The Geotechnical Investigation concluded that no evidence for landsliding was observed on the site, the potential for landslides or slope instability at the site is negligible. Therefore, the Project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. No impacts under this issue are anticipated and no mitigation is required.

b. *Less Than Significant With Mitigation Incorporated* – The potential for soil erosion, loss of topsoil, and/or placing structures on unstable soils is anticipated to be marginally possible at the site during ground disturbance associated with construction. The project site is vacant with some non-native

vegetation coverage. City grading standards, best management practices and the Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) are required to control the potential significant erosion hazards. The topography of the site generally slopes from the highest point to the south.

During project construction when soils are exposed, temporary soil erosion could occur, which could be exacerbated by rainfall. Project grading would be managed through the preparation and implementation of a SWPPP and the developer will be required to implement best management practices to achieve concurrent water quality controls after construction is completed. The following mitigation measures or equivalent best management practices (BMPs) shall be implemented to address these issues during construction:

GEO-2 Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. If covering is not feasible, then measures such as the use of straw bales or sandbags shall be used to capture and hold eroded material on the Project site for future cleanup.

GEO-3 All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the site within which the Washington/Nutmeg Multifamily Development is being constructed.

With implementation of the above mitigation measures, implementation of the SWPPP and associated BMPs, any impacts under this issue are considered less than significant.

c. *Less Than Significant With Mitigation Incorporated* – Refer to the discussion under VII(a) above. Potential instability associated with slope stability and liquefaction related to the project was determined to be less than significant with mitigation, as outlined under discussion a(iii) and a(iv) above. According to the Geotechnical Report (page 6) the site is subject to a limited potential for vertically induced consolidation and lateral spreading. Mitigation is identified in **GEO-1** to control this potential impact. Furthermore, the Geotechnical Investigation concluded that no organic-rich soils with significant collapse potential were encountered and the site is not located in an area of known subsidence potential. Furthermore, the Geotechnical Report identified several recommendations for site construction that will ensure that the proposed Project is constructed to address the geotechnical constraints of the project site.

Thus, with the above mitigation measure, the Project will not have a significant potential to 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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse. Any impacts are considered less than significant with mitigation.

d. *Less Than Significant Impact – T*he Geotechnical Investigation concluded that the soils at the site are sufficiently granular to preclude a potential for significant expansion. Therefore, the development of the multifamily units at this site will not create a substantial risk to life or property by being placed on expansive soils because none exist on the site. Any impacts are considered less than significant. No mitigation is required.

e. *No Impact* – The Project does not propose any septic tanks or alternative wastewater disposal systems. Therefore, determining if the Project site soils are capable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater does not apply. No impacts are anticipated. No mitigation is required.

f. *Less Than Significant With Mitigation Incorporated* – The potential for discovering paleontological resources during development of the Project is considered not likely based on the data gathered

within the Cultural Resources Report provided as Appendix 3. No unique geologic features are known or suspected to occur on or beneath the site. However, because paleo resources are located beneath the surface and can only be discovered as a result of ground disturbance activities, the following measure shall be implemented:

GEO-4 ***Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.***

With incorporation of this contingency mitigation, the potential for impact to paleontological resources will be reduces to a less than significant level. No additional mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VIII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

SUBSTANTIATION: A Greenhouse Gas Analysis (GGA) was prepared for the proposed project. It is titled "Tentative Parcel Map No. 30394, Greenhouse Gas Analysis, City of Murrieta" prepared by Urban Crossroads dated October 7, 2019 (Appendix 6).

Climate Change Setting

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases (GHGs) in the earth's atmosphere, including carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and fluorinated gases. The majority of scientists also believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may contribute in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC.

Greenhouse Gases and Health Effects

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. The potential health effects related directly to the emissions of CO2, CH4, and N2O as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas.

Global Warming Potential

GHGs have varying Global Warming Potential (GWP) values. GWP of a GHG indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO2 is utilized as the reference gas for GWP, and thus has a GWP of 1. Carbon dioxide equivalent (CO2e) is a term used for describing the difference GHGs in a common unit. CO2e signifies the amount of CO2 which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized at Table 2-2 of Appendix 6. As shown in this table, GWP for the Second Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO2 to 23,900 for SF6 and GWP for the IPCC's 5th Assessment Report range from 1 for CO2 to 23,500 for SF6.

Greenhouse Gas Emissions Inventories

Global: Worldwide anthropogenic (human) GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2017. Based on the latest available data, the sum of these emissions totaled approximately 29,216,501 gigagram (Gg) CO2e.

State of California: California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls, but is still a substantial contributor to the U.S. emissions inventory total. The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 million metric tons of CO2e (MMTCO2e) per year.

Significance Thresholds

The City of Murrieta has not adopted a threshold of significance for GHG emissions. As such, a screening threshold of 3,000 MTCO2e per year is applied herein, which is a widely accepted screening threshold used by the County of Riverside and numerous cities in the South Coast Air Basin and is based on the South Coast Air Quality Management District (SCAQMD) staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans ("SCAQMD Interim GHG Threshold").

Standards of Significance

The criteria used to determine the significance of potential Project-related GHG impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 California Code of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to GHG if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Impact Analysis

a. *Less Than Significant Impact* – The SCAQMD screening threshold of 3,000 MTCO2e per year is utilized to determine whether construction or operational emissions will be significant.

Construction Emissions Summary

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year project life then adding that number to the annual operational phase GHG emissions. As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table VIII-1.

Table VIII-1
AMORTIZED ANNUAL CONSTRUCTION EMISSIONS
(METRIC TONS PER YEAR)

Year	CO_2	CH_4	N_2O	Total CO_2E
2020	855.30	0.14	0.0	**858.81**
2021	575.97	0.10	0.0	**578.37**
Total Annual Construction Emissions	1,431.27	0.24	0.0	**1,437.18**
Amortized Construction Emissions ($MTCO_2e$)	**47.71**	**0.01**	**0.0**	**47.91**

Source: CalEEMod model output, See Appendix 3.1 detailed model outputs.

As shown above, the amortized construction emissions are well below the 3,000 MT CO_2e threshold, and as such, construction emissions are considered less than significant.

Operational Emissions

Operational activities associated with the proposed Project will result in emissions of CO2, CH4, and N2O from the following primary sources:

- Area Source Emissions: Landscape Maintenance Equipment
- Energy Source Emissions: Co
- Mobile Source Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste

Emissions Summary

The annual GHG emissions associated with the operation/occupancy of the proposed Project are estimated to be 2,971.28 MTCO2e per year as summarized in Table VIII-2.

Table VIII-2
PROJECT GHG EMISSIONS
(METRIC TONS PER YEAR)

Year	CO_2	CH_4	N_2O	Total CO_2E
Annual construction-related emissions amortized over 30 years	47.71	0.01	0.0	47.91
Area Source	3.55	3.44e-03	0.0	3.63
Energy Source	413.54	0.02	5.94e-03	415.74
Mobile Source	2,381.80	0.12	0.0	2,384.73
Waste	19.61	1.16	0.0	48.58
Water Usage	58.99	0.36	9.07e-03	70.69
Total CO_2e (All Sources)	**2,971.29**			

Source: CalEEMod model output, See Appendix 3.1 detailed model outputs.

Conclusion

The City of Murrieta has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. A screening threshold of 3,000 MTCO2e per year to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the City and numerous cities in the SCAB and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required.

As shown on Table VIII-2, the Project will result in approximately 2,971.28 MTCO2e per year; the proposed Project would not exceed the SCAQMD/City's screening threshold of 3,000 MTCO2e per year. Thus, project-related emissions would have a less than significant direct or indirect impact on GHG and climate change and no mitigation required.

b. *Less Than Significant Impact* – A lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from greenhouse gas emissions. As such, the Project's consistency with AB 32, SB 32, and the City's CAP are discussed below.

2008 Scoping Plan Consistency

ARB's Scoping Plan identifies strategies to reduce California's greenhouse gas emissions in support of AB32 which requires the State to reduce its GHG emissions to 1990 levels by 2020. Many of the strategies identified in the Scoping Plan are not applicable at the project level, such as long-term technological improvements to reduce emissions from vehicles. Some measures are applicable and supported by the Project, such as energy efficiency. Finally, while some measures are not directly applicable, the Project would not conflict with their implementation. Reduction measures are grouped into 18 action categories, as follows:

1. **California Cap-and-Trade Program Linked to Western Climate Initiative Partner Jurisdictions.** Implement a broad-based California cap-and-trade program to provide a firm limit on emissions. Link the California cap–and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic.
2. **California Light-Duty Vehicle Greenhouse Gas Standards.** Implement adopted Pavley standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.
3. **Energy Efficiency.** Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).
4. **Renewables Portfolio Standards.** Achieve 33 percent renewable energy mix statewide.
5. **Low Carbon Fuel Standard.** Develop and adopt the Low Carbon Fuel Standard.
6. **Regional Transportation-Related Greenhouse Gas Targets.** Develop regional greenhouse gas emissions reduction targets for passenger vehicles.
7. **Vehicle Efficiency Measures.** Implement light-duty vehicle efficiency measures.
8. **Goods Movement.** Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.
9. **Million Solar Roofs Program.** Install 3,000 megawatts of solar-electric capacity under California's existing solar programs.
10. **Medium- and Heavy-Duty Vehicles.** Adopt medium- (MD) and heavy-duty (HD) vehicle efficiencies. Aerodynamic efficiency measures for HD trucks pulling trailers 53-feet or longer that include improvements in trailer aerodynamics and use of rolling resistance tires were adopted in 2008 and went into effect in 2010. Future, yet to be determined improvements, includes hybridization of MD and HD trucks.
11. **Industrial Emissions.** Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.
12. **High Speed Rail.** Support implementation of a high-speed rail system.
13. **Green Building Strategy.** Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.
14. **High Global Warming Potential Gases.** Adopt measures to reduce high warming global potential gases.

15. **Recycling and Waste.** Reduce methane emissions at landfills. Increase waste diversion, composting and other beneficial uses of organic materials, and mandate commercial recycling. Move toward zero-waste.
16. **Sustainable Forests.** Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation. The 2020 target for carbon sequestration is 5 million MTCO2E/YR.
17. **Water.** Continue efficiency programs and use cleaner energy sources to move and treat water.
18. **Agriculture.** In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.

Table VIII-3 summarizes the Project's consistency with the State Scoping Plan. As summarized, the project will not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories through energy efficiency, water conservation, recycling, and landscaping.

Table VIII-3
2008 SCOPING PLAN CONSISTENCY SUMMARY

Action	Supporting Measures	Consistency
Cap-and-Trade Program	--	Not applicable. These programs involve capping emissions from electricity generation, industrial facilities, and broad scoped fuels. Caps do not directly affect commercial projects.
Light-Duty Vehicle Standards	T-1	Not applicable. While these are CARB- enforced measures that are not directly applicable to the proposed Project, vehicles that access the Project are required to comply with the standards and will comply with this strategy. Electric Vehicle (EV) charging stations are required to be installed on site per the 2019 Title 24 standards.
Energy Efficiency	E-1, E-2, CR-1, CR-2	Consistent. The Project will include a variety of building, water, and solid waste efficiencies consistent with the most current CALGreen requirements.
Renewables Portfolio Standard	E-3	Not applicable. Establishes the minimum statewide renewable energy mix.
Low Carbon Fuel Standard	T-2	Not applicable. Establishes reduced carbon intensity of transportation fuels.
Regional Transportation-Related GHG Targets	T-3	Not applicable. This is a statewide measure and is not within the purview of this Project.
Vehicle Efficiency Measures	T-4	Not applicable. Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use.
Goods Movement	T-5, T-6	Not applicable. Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. While these measures are not directly applicable to the Project, any commercial activity associated with Goods Movement would be required to comply with these measures as adopted. As such, the proposed Project would not interfere with their implementation.

Action	Supporting Measures	Consistency
Million Solar Roofs (MSR) Program	E-4	Consistent. The MSR program sets a goal for use of solar systems throughout the state as a whole. While the Project currently does not include solar energy generation, the building roof structure will be designed to support solar panels in the future, consistent with Title 24 requirements.
Medium- & Heavy-Duty Vehicles	T-7, T-8	Not applicable. MD and HD trucks and trailers for industrial uses are be subject to aerodynamic and hybridization requirements as established by CARB; the proposed Project would interfere with implementation of these requirements and programs.
Industrial Emissions	I-1, -2, I-3, I-4, I-5	Not applicable. These measures are applicable to large industrial facilities (> 500,000 MTCO2e/yr) and other intensive uses such as refineries.
High Speed Rail	T-9	Not applicable. Supports increased mobility choice.
Green Building Strategy	GB-1	Consistent. The Project will include a variety of building, water, and solid waste efficiencies consistent with the current CALGreen requirements.
High Global Warming Potential Gases	H-1, H-2, H-3, H-4, H-5, H-6, H-7	Not applicable. The proposed Project is not a substantial source of high GWP emissions and will comply with any future changes in air conditioning, fire protection suppressant, and other requirements.
Recycling and Waste	RW-1, RW-2, RW-3	Consistent. The Project will be required to recycle a minimum of 65 percent from construction activities and Project operations per State and County requirements.
Sustainable Forests	F-1	Consistent. The Project will increase carbon sequestration by increasing on-site trees per the project landscaping plan.
Water	W-1, W-2, W-3, W-4, W-5, W-6	Consistent. The Project will include use of low-flow fixtures and efficient landscaping per State requirements
Agriculture	A-1	Not applicable. The Project is not an agricultural Use.

SB 32/2017 Scoping Plan Consistency

The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table VIII-4 summarizes the project's consistency with the 2017 Scoping Plan. As summarized, the project will not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories.

Table VIII-4
2017 SCOPING PLAN CONSISTENCY SUMMARY

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50 percent of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. This measure is not directly applicable to development projects, but the proposed Project would use energy from Southern California Edison, which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. Although this measure is directed towards policymakers, the proposed Project would be designed and constructed to implement the energy efficiency measures for new commercial developments and would include several measures designed to reduce energy consumption.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		Consistent. The proposed Project would be designed and constructed to implement the energy efficiency measures, where applicable by including several measures designed to reduce energy consumption. The proposed Project includes energy efficient field lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy
At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.		Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy
Medium- and Heavy-Duty GHG Phase 2.		Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.		Not applicable. This measure is not within the purview of this Project.

Action	Responsible Parties	Consistency
Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.		Not applicable. This Project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		Not applicable. This Project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	Not applicable. The Project is not within the purview of SB 375 and would therefore not conflict with this measure.
By 2019, adjust performance measures used to select and design transportation facilities		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g. via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO- Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	Not applicable. Although this is directed towards CARB and Caltrans, the proposed Project would be designed to promote and support pedestrian activity on-site and in the Project Site area.
By 2019, develop pricing policies to support low-GHG transportation (e.g. low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	Not applicable. Although this measure is directed towards policymakers, the proposed Project would comply with AB 939, which sets a statewide policy that not less than 65 percent of solid waste generated be source reduced, recycled, or composted. Additionally, the proposed Project would be required to have a recycling program and recycling collection. During construction, the proposed Project shall recycle and reuse construction and demolition waste per County Solid Waste procedures.

Action	Responsible Parties	Consistency
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	When adopted, this measure would apply to all trucks accessing the Project site, this may include existing trucks or new trucks that are part of the statewide goods movement sector.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		Not applicable. This measure is not within the purview of this Project.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18 percent.	CARB	LCFS, with an increased stringency (18 percent by 2030). When adopted, this measure would apply to all fuel purchased and used by the Project in the state.
Implement the Short-Lived Climate Pollutant Strategy by 2030		
40 percent reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	When adopted, the Project would be required to comply with this measure and reduce SLPS accordingly.
50 percent reduction in black carbon emissions below 2013 levels.		Not applicable. This measure is not within the purview of this Project.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this Project.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	When adopted, the Project would be required to comply with the Cap-and- Trade Program if it generates emissions from sectors covered by Cap-and-Trade.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Not applicable. This measure is not within the purview of this Project.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		Not applicable. This measure is not within the purview of this Project.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		Not applicable. This measure is not within the purview of this Project.
Establish scenario projections to serve as the foundation for the Implementation Plan		Not applicable. This measure is not within the purview of this Project.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	Not applicable. This measure is not within the purview of this Project.

Action	Responsible Parties	Consistency
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	Not applicable. This measure is not within the purview of this Project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Not applicable. This measure is not within the purview of this Project.

As shown above, the Project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030.

City of Murrieta Climate Action Plan Consistency

The City of Murrieta adopted a CAP on July 19, 2011. The CAP provides a framework for reducing GHG emissions and managing resources to best prepare for a changing climate. The CAP recommends GHG emissions targets that are consistent with the reduction targets of the State of California and presents a number of strategies that will make it possible for the City to meet the recommended targets. The CAP also suggests best practices for implementation and makes recommendations for measuring progress (Murrieta, 2011b, p. 1-1).

Table VIII-5
PROJECT CONSISTENCY WITH THE CITY OF MURRIETA CLIMATE ACTION PLAN

Cap Strategy	Analysis of Project Consistency
Strategy 1: Community Involvement Strategy	Not Applicable. The CAP's Community Involvement Strategy provides guidance to the City for conducting outreach programs to involve residents and businesses in GHG-reducing activities, assessments, and actions. The proposed Project would not affect the City's ability to conduct community outreach.
Strategy 2: Land Use and Community Vision Strategy	Consistent. The proposed Project would aid in creating a complementary balance of land uses throughout the community.
Strategy 3: Transportation and Mobility Strategy	Consistent. Any potential roadway improvements planned by the Project have been designed to City standards and would safely accommodate pedestrians and bicycles. The remaining goals and measures under the Transportation and Mobility Strategy are not applicable to the proposed Project.
Strategy 4: Energy Use and Conservation Strategy	Consistent. The Project would be required to comply with Title 24 California Code of Regulations (California Building Code), which establishes stringent energy efficiency requirements for new development. The remaining goals and measures under the Energy Use and Conservation Strategy are not applicable to the proposed Project.
Strategy 5: Water Use and Efficiency Strategy	Consistent. The Project would be required to comply with Murrieta Municipal Code Section 16.28 (Landscaping Standards and Water Efficient Landscaping), which would reduce the Project's energy demand associated with landscaping and water use. The remaining goals and measures under the Water Use and Efficiency Strategy are not applicable to the proposed Project.

Cap Strategy	Analysis of Project Consistency
Strategy 6: Waste Reduction and Recycling Strategy	Consistent. The Project has been designed to accommodate adequate infrastructure for water, sewer, storm water, and energy. The remaining goals and measures under the Waste Reduction and Recycling Strategy are not applicable to the proposed Project.
Strategy 7: Open Space Strategy	Consistent. The Project's incorporates a variety of trees, bushes, and groundcover.

As indicated in Table VIII-5: Project Consistency with the City of Murrieta Climate Action Plan, the proposed Project would be consistent with, or otherwise would not conflict with, the CAP's strategies, goals, and measures. As such, the proposed Project would have a less than significant potential to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. No mitigation is required.

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

SUBSTANTIATION

a&b. *Less Than Significant With Mitigation Incorporated* – The project may create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or may 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. During construction there is a potential for accidental release of petroleum products in sufficient quantity to pose a significant hazard to people and the environment. The following mitigation measure will be incorporated into the Storm Water Pollution Prevent Plan (SWPPP) prepared for the project and implementation of this measure can reduce this potential hazard to a less than significant level.

HAZ-1 ***All spills or leakage of petroleum products (or other hazardous materials) during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility. This measure will be incorporated into the SWPPP prepared for the Project development.***

The Project consists of 210 market rate apartments; operation of such uses would not involve the use of a substantial amount of hazardous materials. Household cleaning supplies would be used in small quantities to support the maintenance of the apartments. Compliance with all Federal, State, and local regulations governing the storage and use of hazardous materials is required, and will ensure that the Project operates in a manner that poses no substantial hazards to the public or the environment. No further mitigation is required.

c. *No Impact* – The project site is located greater than one-quarter mile from any public school. According to the Murrieta Unified School District website, and the Murrieta Unified School District Boundary Map (Figure IX-1), there are no existing or proposed schools located within one-quarter mile of the Project site. Cole Canyon is located about one half mile southwest of the project site at 23750 Via Alisol, Murrieta, CA 92562. Based on this information, implementation of the Project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No adverse impacts are anticipated. No additional mitigation is required.

d. *No Impact* – The proposed Project consists of an approximately 14.4-acre parcel consisting entirely of previously graded and mowed vacant land surrounded by existing development. The Project will not be located on a site that is included on a list of hazardous materials sites that are currently under remediation. According to the California State Water Board's GeoTracker website (consistent with Government Code Section 65962.5), which provides information regarding Leaking Underground Storage Tanks (LUST), there are no LUST or LUST cleanup sites within 2,500 feet of the Project site (Figure IX-2). Therefore, the proposed construction and operation/occupancy of the site as the Washington/Nutmeg Multifamily Development Project will not create a significant hazard to the population or to the environment from their implementation. No impacts are anticipated. No mitigation is required.

e. *No Impact* – The Project site is not located within two miles of an airport or private airstrip. The closest airport is the French Valley Airport, which is located approximately 5.8 miles east of the project site; the Washington/Nutmeg Multifamily Development Project is not located within the French Valley Airport land use plan, as shown on Figure IX-3, French Valley Airport Compatibility Map. No impacts are anticipated and no mitigation is required.

f. *Less Than Significant Impact* – According to the City's General Plan, no evacuation routes have been identified, though effectively I-215 and I-15 could be considered evacuation routes within the City. The proposed Project will occur within the project site and is not anticipated to impact surrounding roadways. The project site is located at the northeast corner of the Nutmeg Street and Washington Avenue intersection. It is not anticipated that development of the project site would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because the site activities will be confined within the proposed project site. The proposed onsite parking and circulation plans will be reviewed by the local Fire Department and Police Department to ensure that the Project's ingress/egress are adequate for accommodating emergency vehicles. Therefore, there is no potential for the development of the Project to physically interfere with any adopted emergency response plans or evacuation plans. No significant impacts are anticipated and no mitigation is required.

g. *No Impact* – According to the City of Murrieta General Plan 2035 High Fire Hazard Zones map (Figure IX-4), the proposed project is not located in a high fire hazard zone. Therefore, Project implementation would not result and a potential to expose people or structures to fire hazards. Potential Project-related wildfire impacts are less than significant; no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
X. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite 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?; or,	☐	☒	☐	☐
(iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

SUBSTANTIATION: A Hydrology Study has been prepared to evaluate the potential hydrology and water quality constraints and impacts within the project area dated March 5, 2020, prepared by DRC Engineering, Inc. (Appendix 7). The following summary information has been abstracted from this report. It provides an overview and findings regarding the hydrology and water quality constraints and impacts found within the project area.

a. *Less Than Significant With Mitigation Incorporated* – The proposed project is located within the planning area of the San Diego Regional Water Quality Control Board (RWQCB). The project would be supplied with water by Western Municipal Water District that uses a mix of groundwater and imported surface water to meet customer demand.

For a developed area, the only three sources of potential violation of water quality standards or waste discharge requirements are from generation of municipal wastewater, stormwater runoff, and potential discharges of pollutants, such as accidental spills. Municipal wastewater is delivered to the Santa Rosa Regional Resources Authority's (SRRRA or Authority) Santa Rosa Water Reclamation Facility (SRWRF), located at 6266 Washington Ave, Murrieta, CA 92562 about three miles southwest of the project site. The Authority is responsible for the collection, transmission, treatment, and

disposal of wastewater from its member agencies, relating to flows to the SRWRF in Murrieta, California. The SRWRF operates in compliance with its current waste discharge permit.

To address stormwater and accidental spills within this environment, any new project must ensure that site development implements a Storm Water Pollution Prevention Plan (SWPPP) and a National Pollutant Discharge Elimination System (NPDES) permit to control potential sources of water pollution that could violate any standards or discharge requirements during construction and a Water Quality Management Plan (WQMP, Appendix 7) to ensure that project-related after development surface runoff meets discharge requirements over the short- and long-term. The WQMP would specify stormwater runoff permit Best Management Practices (BMPs) requirements for capturing, retaining, and treating on site stormwater once the multifamily units have been occupied. Because the project site consists of a mix of pervious and impervious surfaces, the Project has identified onsite drainage that will generally be directed to the onsite retention pond that will be installed as part of the Project. The SWPPP would specify the BMPs that the Project would be required to implement during construction activities to ensure that all potential water pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. With implementation of these mandatory Plans and their BMPs, as well as mitigation measure **HAZ-1** above, the development of Washington/Nutmeg Multifamily Development Project will not cause a violation of any water quality standards or waste discharge requirements.

b. *Less Than Significant Impact* – Implementation of the proposed Project will not deplete groundwater supplies that would substantially affect the water availability for existing or planned land uses or biological resources. It is anticipated that, based on previous studies at the project site, the depth to groundwater is anticipated to be approximately 46 feet below the ground surface (bgs), with historic variations between 20 and 100 feet below ground surface. Therefore, the potential to intercept groundwater during grading of both the project site and offsite roadways is considered to be non-existent. The groundwater basin would not be physically altered or impacted as a result of the proposed Project. The design of the drainage and retention facilities of the proposed Project would encourage groundwater recharge in the future.

The Project would be supplied with water by Western Municipal Water District that uses imported surface water to meet primary customer demand. Using imported surface water helps prevent overdraft of local groundwater basins. The District's Urban Water Management Plan (2015)[1] identifies sufficient water resources to meet demand in its service area. Western's retail service area is primarily residential. The total supply for Western in 2015 for retail customers, was 30,407 AFY. The total retail water supply in 2020 is anticipated to be 69,718 AFY; by 2040 the supply of retail water is anticipated to be 92,030 AFY. As shown above, the anticipated available water supply within Western's retail service area is anticipated to be greater than the demand for water in the future, which indicates that Western has available capacity to serve the proposed Project without significant adverse impacts on area groundwater basins.

While the development of the Project may result in a slight reduction in the amount of surface runoff recharge associated with natural runoff, this reduction is expected to be off-set/replaced by infiltration from the on-site bioretention basin and porous concrete, as well as the required onsite landscaping. The development of the Project will, therefore, not substantially interrupt the existing percolation that currently occurs on the site, or any flow of groundwater beneath the project site. No significant adverse impacts to groundwater resources are forecast to occur from implementing the proposed Project. No mitigation is required.

[1] https://www.wmwd.com/DocumentCenter/View/3162/Western_2015-UWMP_Final_Body-Only?bidId=

c i. Result in substantial erosion or siltation onsite or offsite?

Less Than Significant Impact – The proposed project is not anticipated to significantly change the volume of flows downstream of the project site due to the onsite bioretention basin, and would not be anticipated to change the amount of surface water in any water body in an amount that could initiate a new cycle of erosion or sedimentation downstream of the project site. The on-site drainage system will capture the incremental increase in runoff from the project site associated with Project development. Onsite flows will be pretreated through flow through planters and then captured in the proposed site biofiltration basin. This system will be designed to capture the peak 100-year flow runoff from the project site or otherwise detain this flow on site. Treated surface runoff will be discharged in conformance with Riverside County and City of Murrieta requirements. The downstream drainage system will not be altered given the control of future surface runoff from the project site; thus, the potential for downstream erosion or sedimentation will be controlled to a less than significant impact level.

c. ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?

Less Than Significant Impact – The proposed Project will alter the existing drainage courses or patterns onsite but will maintain the existing offsite downstream drainage system through control of future discharges from the site through the bioretention basin, which would prevent flooding onsite or offsite from occurring. Onsite flows will be pretreated through flow through planters and then captured in the proposed site biofiltration basin. This system will be designed to capture any excess runoff from the project site after development. Refer to the analysis in Appendix 7 for the quantitative verification of this finding. Thus, the implementation of onsite drainage improvements and applicable requirements included in the WQMP will ensure that stormwater runoff will not substantially increase the rate or volume of runoff in a manner that would result in substantial flooding on- or off-site. Impacts under this issue are considered less than significant with no mitigation required.

c. 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?

Less Than Significant With Mitigation Incorporated – The proposed project will alter the site such that stormwater runoff within the site will be increased, but will maintain the existing off-site downstream drainage system through control of future discharges from the site. This would prevent the project from exceeding the capacity of existing or planned stormwater drainage systems and from providing substantial additional sources of polluted runoff. The drainage through the property will be captured and treated in the proposed biofiltration basin where it will exit at the southern edge of the property into the existing downstream channel. Onsite flows will be pretreated through flow through planters and/or then captured in the proposed site biofiltration basin. This system will be designed to capture the flows above the peak 100-year flow runoff from the project site without development or otherwise be detained on site and discharged in conformance with Riverside County requirements. This project would discharge into the regional system that flows into Murrieta Creek and eventually the Santa Margarita River. Varying amounts of urban pollutants, such as motor oil, antifreeze, gasoline, pesticides, detergents, trash, animal wastes, and fertilizers, could be introduced into downstream stormwater. However, the proposed Project is not anticipated to generate discharges that would require pollution controls beyond those already designed into the project and/or required by the City as a standard operating procedure to meet water quality management requirements from the RWQCB. The proposed development would install onsite and offsite drainage improvements, including the bioretention basin, and connect to existing drainage system downstream on the south side of Nutmeg. The Project is not anticipated to result in a significant adverse impact to water quality or flows downstream of the project with implementation of mitigation outlined below.

The City and County have adopted stringent best management practices designed to control discharge of non-point source pollution that could result in a significant adverse impact to surface

water quality. The City in particular has implemented a stringent non-point source water pollution control program. The City has identified best management practices (BMPs) that when implemented, can ensure that neither significant erosion and sedimentation, nor other water quality degrading impacts will occur as a result of developing the Project. Although BMPs are mandatory for the Project to comply with established pollutant discharge requirements, the following mitigation measure is designed to establish a performance standard to ensure that the degree of water quality control is adequate to ensure the project does not contribute significantly to downstream water quality degradation.

HYD-1 ***The project proponent will select best management practices from the range of practices identified by the City and reduce future non-point source pollution in surface water runoff discharges from the site to the maximum extent practicable, both during construction and following development. The Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) shall be submitted to the City for review and approval prior to ground disturbance and the identified BMPs installed in accordance with schedules contained in these documents.***

Compliance will also be ensured through fulfilling the requirements of a SWPPP and WQMP monitored by the City and the RWQCB. The SWPPP must incorporate the BMPs that meet the performance standard established in HYD-1 for both construction and occupancy stages of the project. Thus, the implementation of onsite drainage improvements and applicable requirements will ensure that that drainage and stormwater will not create or contribute runoff that would exceed the capacity of existing or planned offsite stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts under this issue are considered less than significant with mitigation required.

c. iv. Impede or redirect flood flows?

Less Than Significant Impact –As shown on the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Map (FIRM) #06065C2720G provided as Figure X-1, the project site is located within Zone X, which represents an area with a 0.2% annual chance storm (500-year), areas of a 1% (100-year) annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile. Furthermore, development of this site is not anticipated to redirect or impede flood flow at the project site, particularly given that surface flows on site will be directed to the onsite drainage features which will be capable of intercepting the peak 100-year flow rate from the project site or otherwise be detained on site and discharged in conformance with Riverside County requirements. Therefore, impacts under this issue are considered less than significant and no mitigation is required.

d. *Less Than Significant Impact* – Implementation of the Project will not expose people or structures to a significant risk of inundation by seiche, tsunami, or other flood hazards. According to the City's General Plan (Figure 5.13-3), the proposed Project is not located in an area of dam inundation by any of the surrounding reservoirs. Therefore, the potential to expose people or structures to a significant risk of flood hazard due to dam inundation would be minimal. No mitigation is required.

e. *Less Than Significant Impact* – WMWD states the following in regard to the Sustainable Groundwater Management Act, "In 2014, Governor Brown signed into law the Sustainable Groundwater Management Act, also known as SGMA. The Act took effect in 2015. It requires for the first time in state history that groundwater resources be sustainably managed by local agencies through the formation of Groundwater Sustainability Agencies (GSAs) in basins that are deemed high-priority or medium-priority by the Department of Water Resources. In such basins, GSAs are required to develop and implement Groundwater Sustainability Plans."[2] The groundwater basin underlying the

[2] https://www.wmwd.com/461/Sustainable-Groundwater-Management-Act

Project is not considered to be a basin that requires management under the Sustainable Groundwater Management Act. As such, the Project would not conflict with a sustainable groundwater management plan. Water consumption and effects in the basin indicate that the proposed Project's water demand is considered to be minimal. By controlling water quality during construction and operations through implementation of both short- (SWPPP) and long- (WQMP) term best management practices at the site, no potential for conflict or obstruction of the Regional Board's water quality control plan has been identified.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☒	☐

SUBSTANTIATION

a. *No Impact* – Refer to the aerial photo on Figure 2. The project site constitutes an infill parcel that is surrounded on three sides by existing residential uses. The property on the south side of the Washington/Nutmeg intersection is developed with community commercial land uses, while the vacant lot on the southeast portion of the intersection is designated for large-lot single-family residential uses. The project site is designated/zoned for multifamily residential use and has had this designation since at least 2005. This site has historically been graded and is characterized by a gentle slope from the north to south with the lowest point near the intersection of Washington and Nutmeg. The construction of the apartment complex at this location would be consistent with both the uses surrounding the project and the surrounding land use designations and zoning classifications, i.e., all residential. Consequently, the development of the project site with the proposed use will not divide any established community in any manner. Therefore, no significant impacts under this issue are anticipated and no mitigation is necessary.

b. *Less Than Significant Impact* – The project site encompasses about 14.4 acres and it is zoned for Multi-Family 1 Residential (MF-1, 10.1-15 du/ac) development. The project proposes a total of 210 units at a density of 14.58 dwelling units per acre (du/acre) on the approximately 14.4-acre site. With approval of the Development Permit application on this property, the proposed Washington/Nutmeg Multifamily Development Project will be fully consistent the General Plan Land Use Map, shown on Figures XI-1, which depicts the City of Murrieta General Plan Land Use Designation Map and the City of Murrieta Zoning Map. A review of the Land Use Element Goals indicates that of the 26 goals, the proposed Project is consistent with Goals LU-1, LU-3, LU-4, LU-9, LU-10, and LU-23. All other Land Use Element Goals are not applicable to the proposed Project.

A review of all other General Plan Element Goals (Economic Development, Circulation, Infrastructure, Healthy Community, Conservation, Recreation and Open Space, Air Quality, Noise, Safety, and Housing) indicates that the proposed Project is consistent with all applicable Goals, often with mitigation, as demonstrated by the findings in the pertinent sections of this Initial Study. The proposed Project is specifically identified in the Housing Element (text and Exhibit A-1) as one of the City's multifamily residential properties. The proposed Project can be implemented without significant effects on the circulation system; all infrastructure exists or can be extended to the site to support the 210 apartment units; it can meet the City's urban design objectives and supports a safe and sustainable transportation system in the City; it can be developed with no conflicts with the

Conservation Element issues (natural environment, watershed, cultural resources, and energy demands); it will provide the City with additional facilities to support human resident recreation needs; it will not generate significant air emissions or GHG emissions, with mitigation; it will meet noise design requirements with mitigation; it can meet all Safety Element requirements; and as noted above it implements the City's Housing Element, specifically Goals 1 and 5 which state:

- *Goal 1: Provide adequate housing opportunities*
- *Goal 5: Identify adequate sites to achieve housing variety*

Therefore, the implementation of this Project at this site is consistent with the City's plans and policies. Although the Washington/Nutmeg Multifamily Development Project is a multifamily development, such use does not inherently conflict with adjacent single-family uses. First, the site would be difficult to develop with single family uses due to the adjacent streets, Washington and Nutmeg. Second the land use patterns, such as activities of the occupants, is comparable to the adjacent single-family residences, i.e., hours of activity and types of activity are the same for both single-family residents and multifamily residents. Residents awake in the morning with many leaving for work; families are raised at both types of residences; children play during daylight hours; meals are taken at similar times during the day; and at night residents of both types of units have an evening meal, watch television, engage their neighbors in interaction, and seek sleep until the morning. This is not an industrial or commercial land use that may have activity patterns totally different from adjacent residents.

Based on the preceding information, implementation of the Washington/Nutmeg Multifamily Development Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the General Plan, Zone classification, or the City's Municipal Code) adopted for the purpose of avoiding or mitigating an environmental effect. No adverse impacts are anticipated under this issue and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XII. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

SUBSTANTIATION

a&b. *No Impact* – The proposed site for the Washington/Nutmeg Multifamily Development Project is highly disturbed as it currently contains an engineered, graded pad. The site is in an urbanized area surrounded by development within the City of Murrieta. According to the map prepared for the Murrieta General Plan depicting Mineral Resources, provided as Figure XII-1, the project is not located on a site that contains known mineral resources of any type. Therefore, the development of the proposed Project will not cause any loss of mineral resource values to the region or residents of the state, nor would it result in the loss of any locally important mineral resources identified on the City of Murrieta General Plan. No impacts would occur under this issue. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIII. NOISE: Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

SUBSTANTIATION: A noise impact analysis was prepared for the proposed project and is provided as Appendix 8 to this Initial Study. It is titled "Tentative Parcel Map No. 30394 Noise Impact Analysis, City of Murrieta" prepared by Urban Crossroads dated October 14, 2019.

Background

Noise is generally described as unwanted sound. The proposed Washington/Nutmeg Multifamily Development Project will include 17 apartment buildings with 210 proposed apartment units varying between one and three bedrooms. The site is bounded by Washington Avenue and Nutmeg Street on two sides (southwest and southeast, respectively) and by single-family residential uses to the northwest and northeast. Please refer to the aerial photo in Figure 2. The existing noise environment is dominated by traffic noise from the adjacent roadways and typical suburban residential uses.

The unit of sound pressure ratio to the faintest sound detectable to a person with normal hearing is called a decibel (dB). Sound or noise can vary in intensity by over one million times within the range of human hearing. A logarithmic loudness scale, similar to the Richter scale for earthquake magnitude, is therefore used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all sound frequencies within the entire spectrum. Noise levels at maximum human sensitivity from around 500 to 2,000 cycles per second are factored more heavily into sound descriptions in a process called "A-weighting," written as "dBA."

Leq is a time-averaged sound level; a single-number value that expresses the time-varying sound level for the specified period as though it were a constant sound level with the same total sound energy as the time-varying level. Its unit is the decibel (dB). The most common averaging period for Leq is hourly.

Because community receptors are more sensitive to unwanted noise intrusion during more sensitive evening and nighttime hours, state law requires that an artificial dBA increment be added to quiet time noise levels. The State of California has established guidelines for acceptable community noise levels that are based on the Community Noise Equivalent Level (CNEL) rating scale (a 24-hour integrated noise measurement scale). The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable"

up to 70 dB CNEL, as are office buildings and business, commercial and professional uses with some structural noise attenuation.

a. *Less Than Significant With Mitigation Incorporated* – The proposed Project is located in an area of mixed development, with residential uses to the northwest of the Washington/Nutmeg intersection and a mix of institutional (church) and low-density residential uses to the south and southeast of the intersection (refer to the aerial photo in Figure 2). Single-family residences directly abut the project site to the northwest, north, and northeast. Short-term noise levels associated with project construction activates have a potential to adversely impact these sensitive receptors which are presently exposed to noise from the adjacent roadways.

Short-Term Noise

Section 16.30.130 of the City of Murrieta Noise Ordinance regulates construction noise. The Noise Ordinance prohibits noise generated by construction activities between the hours of 7:00 PM and 7:00 AM and on Sundays and holidays. The City of Murrieta Construction Noise standards are as follows:

Table XIII-1
CITY OF MURRIETA CONSTRUCTION NOISE STANDARDS

	Single Family Residential	Multi-Family Residential	Commercial
Mobile Equipment			
Daily, except Sundays and holidays, 7:00 AM to 8:00 PM	75 dBA	80 dBA	85 dBA
Daily, except Sundays and holidays, 8:00 PM to 7:00 AM	60 dBA	64 dBA	70 dBA
Stationary Equipment			
Daily, except Sundays and holidays, 7:00 AM to 8:00 PM	60 dBA	65 dBA	70 dBA
Daily, except Sundays and holidays, 8:00 PM to 7:00 AM	50 dBA	55 dBA	60 dBA

The City of Murrieta Municipal Code prohibits the operation of tools or equipment used in construction, drilling, repair, alteration, or demolition work between weekday hours of 7:00 PM and 7:00 AM, or at any time on Sundays or holidays. Further, noise associated with mobile equipment at the property line of commercial land uses is not allowed to exceed 85 dBA Leq between the hours of 7:00 AM and 8:00 PM or exceed 70 dBA Leq between the hours of 8:00 PM and 7:00 AM. Noise associated with mobile equipment at the property line of single-family residential land uses is not allowed to exceed 75 dBA Leq between the hours of 7:00 AM and 8:00 PM or exceed 60 dBA Leq between the hours of 8:00 PM and 7:00 AM.

Noise Measurement Locations

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent any part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans' general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area.*

Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community.

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the referenced noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

Noise Measurement Results

The noise measurements presented below focus on the average or equivalent sound levels (Leq). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table XIII-2 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 8 (Section 5.2) provides a summary of the existing hourly ambient noise levels described below:

The noise measurements presented below focus on the average or equivalent sound levels (Leq). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table XIII-2 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 8 (Section 5.2) provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels on Washington Avenue South of 42001 Yukon Court near the northern Project site boundary. The noise level measurements collected show an overall 24-hour exterior noise level of 72.0 dBA CNEL. The hourly noise levels measured at location L1 ranged from 67.7 to 72.2 dBA Leq during the daytime hours and from 53.7 to 70.3 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 69.3 dBA Leq with an average nighttime noise level of 64.0 dBA Leq.

- Location L2 represents the noise levels in the nearby single-family residential community at 23372 Mountain Song Loop. The noise level measurements collected show an overall 24-hour exterior noise level of 66.4 dBA CNEL. The hourly noise levels measured at location L2 ranged from 46.5 to 66.4 dBA Leq during the daytime hours and from 38.5 to 49.1 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 56.9 dBA Leq with an average nighttime noise level of 45.0 dBA Leq.

- Location L3 represents the noise levels east of the Project site near the single-family home at 41751 Grand View Drive. The 24-hour CNEL indicates that the overall exterior noise level is 50.8 dBA CNEL. At location L3 the background ambient noise levels ranged from 43.1 to 53.8 dBA Leq during the daytime hours to levels of 37.0 to 47.2 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 48.4 dBA Leq with an average nighttime noise level of 42.6 dBA Leq.

- Location L4 represents the noise levels south the Project site across Nutmeg Street on Washington Avenue in the northwest parking lot of the Church of Jesus Christ of Latter-Day Saints. The noise level measurements collected show an overall 24-hour exterior noise level of 67.1 dBA CNEL. The hourly noise levels measured at location L4 ranged from 62.2 to 67.9 dBA Leq during the daytime hours and from 49.0 to 58.9 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 64.1 dBA Leq with an average nighttime noise level of 58.9 dBA Leq.

- Location L5 describes the noise levels on Washington Avenue north of the single-family home at 23610 Kathryn Street. The noise level measurements collected show an overall 24-hour exterior noise level of 79.4 dBA CNEL. The hourly noise levels measured at location L1 ranged from 73.5 to 79.1 dBA Leq during the daytime hours and from 61.9 to 76.4 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 76.9 dBA Leq with an average nighttime noise level of 71.0 dBA Leq.

Table XIII-2 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods as a single number. Appendix 8 (Section 5.2) provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L1, L2, L5, L8, L25, L50, L90, L95, and L99 percentile noise levels observed during the daytime and nighttime periods.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with the arterial roadway network. The 24-hour existing noise level measurements shown on Table XIII-2 present the existing ambient noise conditions. For a description of modeling methods and procedures refer to Appendix 8. This section of Appendix 8 also includes time of day vehicle splits and distribution of traffic flow by vehicle type. Note that heavy trucks comprise less than one percent of average daily traffic.

Table XIII-2
24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Distance to Site (Feet)	Description	Energy Average Hourly Noise Level (dBA L_{eq})[2]		Average Median Noise Level (dBA L_{50})[2]		CNEL
			Daytime	Nighttime	Daytime	Nighttime	
L1	100'	Located on Washington Ave. South of 42001 Yukon Ct.	69.3	64.0	62.5	60.3	79.4
L2	270'	Located east of single-family home at 23372 Mountain Song Loop	56.9	45.0	45.3	41.3	56.4
L3	200'	Located in front of single-family home at 41751 Grand View Dr.	48.4	42.6	41.9	38.3	50.8
L4	700'	Located along Washington Ave. in the northwest parking lot of the Church of Jesus Christ of Latter-Day Saints	64.1	58.9	59.8	48.4	67.1
L5	75'	Located along Washington Ave. north of single-family home at 23610 Kathryn St.	76.9	71.0	70.5	60.3	79.4

[1] See Exhibit 5-A for the noise level measurement locations.
[2] The long-term 24-hour measurement printouts are included in Appendix 5.2.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Construction Activity Noise Evaluation Factors

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Site Preparation (Mobile Equipment)
- Grading (Mobile Equipment)
- Building Construction (Stationary Equipment)

- Paving (Mobile Equipment)
- Architectural Coating (Stationary Equipment)

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. Hard site conditions are used in the construction noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source (i.e. construction equipment). For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver, and would be further reduced to 68 dBA at 200 feet from the source to the receiver. The construction stages used in this analysis are consistent with the data used to support the construction emissions in the *Tentative Parcel Map No. 30394 Air Quality Impact Analysis* prepared by Urban Crossroads, Inc.

To describe the Project construction noise levels, measurements were collected for similar activities at several construction sites. Table XIII-3 provides a summary of the construction reference noise level measurements. Since the reference noise levels were collected at varying distances, all construction noise level measurements presented on Table XIII-3 have been adjusted to describe a common reference distance of 50 feet.

Table XIII-3
CONSTRUCTION REFERENCE NOISE LEVELS

ID	Noise Source	Reference Distance From Source (Feet)	Reference Noise Levels @ Reference Distance (dBA L_{max})	Reference Noise Levels @ 50 Feet (dBA L_{max})[6]
1	Dozer Activity[1]	30'	76.4	72.0
2	Construction Vehicle Maintenance Activities[2]	30'	74.8	70.4
3	Foundation Trenching[2]	30'	74.9	70.5
4	Rough Grading Activities[2]	30'	84.8	80.4
5	Framing[3]	30'	76.7	72.3
6	Two Scrapers Pass-By[4]	30'	86.9	82.5
7	Concrete Mixer Truck Movements[5]	50'	73.1	73.1
8	Concrete Paver Activities[5]	30'	75.7	71.3
9	Concrete Mixer Pour & Paving Activities[5]	30'	76.3	71.9
10	Concrete Mixer Backup Alarms & Air Brakes[5]	50'	78.8	78.8
11	Concrete Mixer Pour Activities[5]	50'	79.2	79.2

[1] As measured by Urban Crossroads, Inc. on 10/14/15 at a business park construction site located at the northwest corner of Barranca Parkway and Alton Parkway in the City of Irvine.
[2] As measured by Urban Crossroads, Inc. on 10/20/15 at a construction site located in Rancho Mission Viejo.
[3] As measured by Urban Crossroads, Inc. on 10/20/15 at a residential construction site located in Rancho Mission Viejo.
[4] As measured by Urban Crossroads, Inc. on 10/30/15 during grading operations within an industrial construction site located in the City of Ontario.
[5] Reference noise level measurements were collected from a nighttime concrete pour at an industrial construction site, located at 27334 San Bernardino Avenue in the City of Redlands, between 1:00 a.m. to 2:00 a.m. on 7/1/15.
[6] Reference noise levels are calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).

This analysis focuses on the potential ground-borne vibration associated with construction activities. Construction has the potential to result in varying degrees of temporary ground vibration, depending

on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table XII-4. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation:

$$PPVequip = PPVref \times (25/D)1.5$$

Table XIII-4
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Loaded Trucks	0.076
Large bulldozer	0.089

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

To assess the potential for the project-related operational noise sources and short-term construction noise source impacts, the following five receiver locations as shown on Exhibit 8-A were identified as representative locations for focused analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multifamily dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Sensitive receivers near the project site include existing single-family residential homes adjacent to project site to the north and east with additional single-family residential homes located west of the site across Washington Avenue. Refer to Figure XIII-2 for a map showing locations of sensitive receivers. The Church of Jesus Christ of Latter-day Saints is located south of the project site across Nutmeg Street. Other sensitive land uses in the project study area, that are located at greater distances than those identified in this noise study, will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures.

R1: Located approximately 69 feet north of the Project site and an existing 6-foot high noise barrier, R1 represents the existing residential outdoor living areas (backyards) adjacent to the northern project site boundaries. A 24-hour noise level measurement was taken near this location, L2, to describe the existing ambient noise environment.

R2: Located approximately 58 feet north of the project site and an existing 6-foot high noise barrier, R2 represents the existing residential outdoor living areas (backyards) adjacent to the northern Project site boundaries. A 24-hour noise level measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Located approximately 71 feet east of the project site and an existing 6-foot high noise barrier, R3 represents the existing residential outdoor living areas (backyards) adjacent to the eastern Project

site boundaries. A 24-hour noise level measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Located approximately 825 feet south of the Project site across Nutmeg Street and behind an existing 6-foot high noise barrier, R4 represents the existing Church of Jesus Christ of Latter-day Saints. A 24-hour noise level measurement was taken near this location, L4, to describe the existing ambient noise environment.

R5: Located approximately 132 feet west of the Project site across Washington Avenue and behind an existing 6-foot high noise barrier, R5 represents the existing residential outdoor living areas (backyards). A 24-hour noise level measurement was taken near this location, L5, to describe the existing ambient noise environment.

For more detailed information regarding methods and procedures to model noise impacts and for information regarding time of day vehicle splits and distribution of traffic flow by vehicle type, refer to the Noise Study in Appendix 8.

Construction Noise Impacts

Figure XIII-3 shows the construction activity boundaries in relation to the nearby sensitive receiver locations. Using the reference construction equipment noise levels, previously shown on Table XIII-3, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Tables XIII-5 to XIII-10 present the short-term construction noise levels for each stage of construction. Table XIII-11 provides a summary of the construction noise levels by stage at the nearby noise-sensitive receiver locations. Based on the stages of construction, the noise impacts associated with the proposed Project are expected to create temporarily high noise levels at the nearby receiver locations. To assess the worst-case construction noise levels, this analysis shows the highest noise impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity to each receiver location.

Table XIII-5
SITE PREPARATION (MOBILE EQUIPMENT) NOISE LEVELS

Reference Construction Activity[1]				Reference Noise Level @ 50 Feet (dBA L_{max})
Dozer Activity				72.0
			Highest Reference Noise Level at 50 Feet:	72.0
Receiver Location	**Distance to Construction Activity (Feet)[2]**	**Distance Attenuation (dBA)[3]**	**Estimated Noise Barrier Attenuation (dBA)[4]**	**Construction Noise Level (dBA L_{max})**
R1	69'	-2.8	-5.0	64.2
R2	58'	-1.3	-5.0	65.7
R3	71'	-3.0	-5.0	64.0
R4	825'	-24.3	-5.0	42.7
R5	132'	-8.4	-5.0	58.6

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.
[2] Distance from the nearest point of construction activity to the nearest receiver.
[3] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.
[4] Estimated barrier attenuation from existing barriers in the Project study area.

Table XIII-6
GRADING (MOBILE EQUIPMENT) NOISE LEVELS

Reference Construction Activity[1]				Reference Noise Level @ 50 Feet (dBA L_{max})
Dozer Activity				72.0
Rough Grading Activities				80.4
			Highest Reference Noise Level at 50 Feet:	80.4
Receiver Location	**Distance to Construction Activity (Feet)[2]**	**Distance Attenuation (dBA)[3]**	**Estimated Noise Barrier Attenuation (dBA)[4]**	**Construction Noise Level (dBA L_{max})**
R1	69'	-2.8	-5.0	72.6
R2	58'	-1.3	-5.0	74.1
R3	71'	-3.0	-5.0	72.4
R4	825'	-24.3	-5.0	51.1
R5	132'	-8.4	-5.0	67.0

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.
[2] Distance from the nearest point of construction activity to the nearest receiver.
[3] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.
[4] Estimated barrier attenuation from existing barriers in the Project study area.

Table XIII-7
BUILDING CONSTRUCTION (STATIONARY EQUIPMENT) NOISE LEVELS

Reference Construction Activity[1]				Reference Noise Level @ 50 Feet (dBA L_{max})
Construction Vehicle Maintenance Activities				70.4
Foundation Trenching				70.5
Framing				72.3
			Highest Reference Noise Level at 50 Feet:	72.3
Receiver Location	**Distance to Construction Activity (Feet)[2]**	**Distance Attenuation (dBA)[3]**	**Estimated Noise Barrier Attenuation (dBA)[4]**	**Construction Noise Level (dBA L_{max})**
R1	69'	-2.8	-5.0	64.5
R2	58'	-1.3	-5.0	66.0
R3	71'	-3.0	-5.0	64.3
R4	825'	-24.3	-5.0	43.0
R5	132'	-8.4	-5.0	58.9

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.
[2] Distance from the nearest point of construction activity to the nearest receiver.
[3] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.
[4] Estimated barrier attenuation from existing barriers in the Project study area.

Table XIII-8
PAVING (MOBILE EQUIPMENT) NOISE LEVELS

Reference Construction Activity[1]				Reference Noise Level @ 50 Feet (dBA L_{max})
Concrete Mixer Truck Movements				73.1
Concrete Paver Activities				71.3
Concrete Mixer Pour & Paving Activities				71.9
Concrete Mixer Backup Alarms & Air Brakes				78.8
Concrete Mixer Pour Activities				79.2
			Highest Reference Noise Level at 50 Feet:	79.2
Receiver Location	**Distance to Construction Activity (Feet)[2]**	**Distance Attenuation (dBA)[3]**	**Estimated Noise Barrier Attenuation (dBA)[4]**	**Construction Noise Level (dBA L_{max})**
R1	69'	-2.8	-5.0	71.4
R2	58'	-1.3	-5.0	72.9
R3	71'	-3.0	-5.0	71.2
R4	825'	-24.3	-5.0	49.9
R5	132'	-8.4	-5.0	65.8

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.
[2] Distance from the nearest point of construction activity to the nearest receiver.
[3] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.
[4] Estimated barrier attenuation from existing barriers in the Project study area.

Table XIII-9
ARCHITECTURAL COATING (STATIONARY EQUIPMENT) NOISE LEVELS

Reference Construction Activity[1]				Reference Noise Level @ 50 Feet (dBA L_{max})
Construction Vehicle Maintenance Activities				70.4
Framing				72.3
			Highest Reference Noise Level at 50 Feet:	72.3
Receiver Location	**Distance to Construction Activity (Feet)[2]**	**Distance Attenuation (dBA)[3]**	**Estimated Noise Barrier Attenuation (dBA)[4]**	**Construction Noise Level (dBA L_{max})**
R1	69'	-2.8	-5.0	64.5
R2	58'	-1.3	-5.0	66.0
R3	71'	-3.0	-5.0	64.3
R4	825'	-24.3	-5.0	43.0
R5	132'	-8.4	-5.0	58.9

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.
[2] Distance from the nearest point of construction activity to the nearest receiver.
[3] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.
[4] Estimated barrier attenuation from existing barriers in the Project study area.

Table XIII-10
UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Unmitigated Construction Stage Noise Level (dBA L_{max})					
	Mobile Equipment			Stationary Equipment		Highest Noise Levels[2]
	Site Preparation	Grading	Paving	Building Construction	Architectural Coating	
R1	64.2	72.6	71.4	64.5	64.5	72.6
R2	65.7	74.1	72.9	66.0	66.0	74.1
R3	64.0	72.4	71.2	64.3	64.3	72.4
R4	42.7	51.1	49.9	43.0	43.0	51.1
R5	58.6	67.0	65.8	58.9	58.9	67.0

[1] Noise receiver locations are shown on Exhibit 9-A.
[2] Highest construction noise levels across all stages of Project construction.

Table XIII-11
UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVEL COMPLIANCE

Receiver Location[1]	Land Use Category	Highest Construction Activity Noise Levels[2]		Noise Level Threshold[3]		Threshold Exceeded?[4]	
		Mobile Equipment	Stationary Equipment	Mobile Equipment	Stationary Equipment	Mobile Equipment	Stationary Equipment
R1	Single-Family Residential	72.6	64.5	75	60	No	Yes
R2	Single-Family Residential	74.1	66.0	75	60	No	Yes
R3	Single-Family Residential	72.4	64.3	75	60	No	Yes
R4	Church	51.1	43.0	75	60	No	No
R5	Single-Family Residential	67.0	58.9	75	60	No	No

[1] Noise receiver locations are shown on Exhibit 9-A.
[2] Highest construction noise levels of mobile and stationary equipment, as shown on Table 9-6.
[3] Construction noise standards as shown on Table 3-1 and 3-2.
[4] Do the estimated Project construction noise levels exceed the construction noise level thresholds?

The construction noise analysis shows that the highest construction noise levels will occur when equipment is operating at the closest point to each receiver location. As shown on Table XIII-11, the unmitigated construction noise levels experienced at the nearby sensitive receiver locations are expected to range from 42.7 to 74.1 dBA Lmax for mobile equipment, and between 43.0 to 66.0 dBA Lmax for stationary equipment at the sensitive receiver locations.

Table XIII-11 shows the highest construction noise levels at the potentially impacted receiver locations are expected to approach 74.1 dBA Lmax from mobile equipment, and 66.0 dBA Lmax for stationary equipment. While the Project related construction equipment noise levels satisfy the City of Murrieta Municipal Code construction noise level standards of 75 dBA Lmax for mobile equipment, the Project noise levels will exceed the 60 dBA Lmax standards for stationary equipment during temporary Project construction activities at receiver locations R1, R2 and R3.

The noise impacts due to unmitigated Project construction noise levels is, therefore, considered a *potentially significant* impact at receiver locations R1, R2 and R3 and mitigation measures are required to reduce the stationary equipment noise levels generated during temporary Project construction activities. Since receivers R4 and R5 satisfy the City of Murrieta Municipal Code construction noise level standards no mitigation is needed for these locations. Temporary construction noise mitigation measures are only required to reduce the stationary equipment Project construction noise levels at receiver locations R1, R2 and R3.

The construction noise analysis presents a conservative approach with the highest noise-level producing equipment for each stage of Project construction operating at the closest point from primary construction activity to the nearby sensitive receiver locations. This scenario is unlikely to occur during typical construction activities and likely overstates the construction noise levels which will be experienced at each receiver location. With the construction noise mitigation measures identified in this noise study, shown on Figure XIII-3, the worst-case construction noise level increases at the nearby residential receivers would be reduced.

Table XIII-12 shows the mitigated construction noise levels with the required 100-foot buffer area separating the stationary construction equipment from nearby noise sensitive receivers. With the

100-foot buffer mitigation for stationary equipment construction noise, the noise level at nearby noise sensitive receiver locations will be reduced to 56.6 to 57.3 dBA Lmax.

The 100-foot buffer noise mitigation measure for stationary equipment construction satisfies the City of Murrieta 60 dBA Lmax noise level standards. As such, the noise impact due to Project construction is considered a less than significant impact with mitigation.

Table XIII-12
MITIGATED PROJECT CONSTRUCTION NOISE LEVELS (100-FOOT BUFFER)

Receiver Location[1]	Land Use Category	Highest Construction Activity Noise Levels[2]	Distance to Construction Activity (Feet)[3]	Distance Attenuation (dBA)[3]	Estimated Noise Barrier Attenuation (dBA)[4]	Mitigated Construction Noise Level (dBA L_{max})
R1	Single-Family Residential	72.3	169'	-10.6	-5.0	56.7
R2	Single-Family Residential	72.3	158'	-10.0	-5.0	57.3
R3	Single-Family Residential	72.3	171'	-10.7	-5.0	56.6

[1] Noise receiver locations are shown on Exhibit 9-A.
[2] Highest construction noise levels of stationary equipment, as shown on Table 9-7.
[3] Includes the 100' buffer mitigation setback for stationary equipment.
[4] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.
[5] Estimated barrier attenuation from existing barriers in the Project study area.

The following construction noise mitigation measures shall be implemented.

NOI-1 ***The construction contractor shall provide a 100-foot buffer zone between adjacent occupied, sensitive residential receiver locations and stationary construction equipment.***

NOI-2 ***Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating Project construction activities shall only occur between the hours of 7:00 a.m. to 8:00 p.m. daily, with no activity allowed on Sundays or holidays (City of Murrieta Municipal Code, Section 16.30.130(A)(2)(a)(1)). The Project construction supervisor shall ensure compliance with the note and the City shall conduct periodic inspection at its discretion.***

NOI-3 ***During all project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.***

NOI-4 ***The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the project site during all project construction activities (i.e., to the center).***

NOI-5 ***The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (between the hours of 7:00 a.m. to 8:00***

p.m. daily, with no activity allowed on Sundays or holidays). The contractor shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.

NOI-6 Equipment shall be shut off and not left to idle when not in use.

NOI-7 The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.

Construction Vibration Impacts

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to building, the vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is not expected that heavy equipment such as large bulldozers would operate close enough to any residences to cause a vibration impact.

- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within the project site were estimated by data published by the Federal Transit Administration (FTA). Construction activities that would have the potential to generate low levels of ground-borne vibration within the project site include grading. Using the vibration source level of construction equipment provided on Table XIII-5 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table XIII-13 presents the unmitigated Project construction-related vibration levels at the nearby receiver locations.

Table XIII-13
UNMITIGATED CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver Location[1]	Distance To Const. Activity (Feet)	Unmitigated Receiver PPV Levels (in/sec)[2]				RMS Velocity Levels (in/sec)[3]	Threshold Exceeded?[4]
		Small Bulldozer	Loaded Trucks	Large Bulldozer	Peak Vibration (PPV)		
R1	69'	0.001	0.017	0.019	0.019	0.014	Yes
R2	58'	0.001	0.022	0.025	0.025	0.018	Yes
R3	71'	0.001	0.016	0.019	0.019	0.013	Yes
R4	825'	0.000	0.000	0.000	0.000	0.000	No
R5	132'	0.000	0.006	0.007	0.007	0.005	No

[1] Receiver locations are shown on Exhibit 9-A.
[2] Based on the Vibration Source Levels of Construction Equipment included on Table 6-5.
[3] Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.
[4] Do the unmitigated vibration levels exceed the vibration level threshold shown on Table 3-3?

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 in/sec PPV at 25 feet. At distances of 58 feet from the Project construction activities, construction vibration velocity levels are expected to approach 0.025 in/sec PPV, as shown on Table XIII-14. To assess the human perception of vibration levels in PPV, as previously discussed in Section 3, the velocities are converted to RMS vibration levels based on the Caltrans Transportation and Construction Vibration Guidance Manual conversion factor of 0.71. Table XIII-14 shows the construction vibration levels are expected to approach 0.018 in/sec RMS. Therefore, the Project-related vibration impacts will exceed the City of Murrieta 0.01 in/sec RMS threshold, and impacts are considered potentially significant during the construction activities at the Project site

Table XIII-14
MITIGATED CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver Location[1]	Distance To Const. Activity (Feet)	Mitigated Receiver PPV Levels (in/sec)[2]				RMS Velocity Levels (in/sec)[3]	Threshold Exceeded?[4]
		Small Bulldozer	Loaded Trucks	Large Bulldozer	Peak Vibration (PPV)		
R1	169'	0.000	0.004	0.005	0.005	0.004	No
R2	158'	0.000	0.005	0.006	0.006	0.004	No
R3	171'	0.000	0.004	0.005	0.005	0.004	No

[1] Receiver locations are shown on Exhibit 9-A.
[2] Based on the Vibration Source Levels of Construction Equipment included on Table 6-5.
[3] Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.
[4] Do the mitigated vibration levels exceed the vibration level threshold shown on Table 3-3?

Therefore, a 100-foot buffer for large construction equipment greater than or equal to 81,500 pounds based on information provided in the Caterpillar Performance Handbook, shall be required to reduce vibration levels at nearby receiver locations. Instead, smaller, rubber-tired bulldozers (less than 81,500 pounds) shall be used within this area during Project construction to reduce vibration effects. Table XIII-3 shows the mitigated Project construction vibration levels will be reduced to 0.004 in/sec RMS and remain below the City of Murrieta 0.01 in/sec RMS threshold, thereby resulting in less than significant vibration impacts with mitigation.

NOI-8 ***Large loaded trucks and dozers (greater than or equal to 81,500 pounds) shall not be used within 100 feet of the project boundary near receiver locations R1, R2 and R3 if occupied at the time of Project construction, as shown on Exhibit ES-B. Instead, smaller, rubber-tired bulldozers (less than 81,500 pounds) shall be used within this area during Project construction to reduce vibration effects. If all mobile equipment used during Project construction are less than 81,500 this mitigation measure does not need to be implemented.***

With implementation of this measure, construction vibration measures can be reduced to a less than significant impact level.

Long-Term Noise

At the present time the project site does not generate any noise, except random trespass activities. As indicated in the preceding text, the site and surrounding single-family residences are presently exposed to traffic noise generated on the two major streets adjacent to the project site, Washington Avenue and Nutmeg Street. It is this noise setting that affects the long-term occupancy (operational) noise environment of the project site and adjacent residential neighborhood.

The Washington/Nutmeg Multifamily Development Project does not include any specific type of operational noise activities or levels beyond the noise sources associated with typical residential land use in the project study area, such as people moving to and from their home, parking lot vehicle movements, air conditioning units, trash collection, children playing, etc. In addition, the Project residential land use is considered a noise-sensitive receiving land use and not as a significant noise generator. Therefore, no potential operational noise impacts for this residential land use are analyzed in the noise study. Further, the existing ambient noise levels (Table XIII-2) within the neighboring residential community to the north and east range from 69.3 dBA Leq during the daytime and 64.0 dBA Leq during the nighttime hours and are expected to largely overshadow the low noise-generating activities associated with the Project uses. The primary source of noise affecting the project site and neighboring residential community is anticipated to continue being from traffic noise on Washington Avenue and Nutmeg Street.

Transportation Noise Impacts to the Proposed Project

A noise impact analysis has been completed to determine the noise exposure levels that would result from off-site traffic noise sources, and to identify potential noise mitigation measures that would achieve acceptable Project exterior and interior noise levels. The primary source of traffic noise affecting the project site is anticipated to be from Washington Avenue and Nutmeg Street. The Project would also be exposed to nominal traffic noise from the Project's internal local streets. However, due to the distance, topography and low traffic volume/speed, traffic noise from these roads will not make a substantive contribution to ambient noise conditions. This section analyzes on-site exterior and interior noise levels at the Project buildings.

Using the FHWA traffic noise prediction model, and the parameters outlined in Section 6, the expected future exterior noise levels at the first-floor building façades were calculated. Table XIII-15 presents a summary of future exterior noise level impacts at the first-floor receiver locations. The on-site transportation noise level impacts indicate that the unmitigated exterior noise levels will range from 65.1 to 66.9 dBA CNEL. The on-site traffic noise analysis calculations are provided in Appendix 7.1 of Appendix 8

Table XIII-15
UNMITIGATED EXTERIOR TRAFFIC NOISE LEVELS

Receiver Location	Roadway	First-Floor Unmitigated Noise Level (dBA CNEL)	Noise Element Land Use Compatibility[1]	Resulting Requirements[1]
Bldg 6	Washington Ave.	65.1	*Conditionally Acceptable*	Interior Analysis
Bldg 7	Washington Ave.	65.7	*Conditionally Acceptable*	Interior Analysis
Bldg 15	Washington Ave.	65.1	*Conditionally Acceptable*	Interior Analysis
Bldg 16	Nutmeg St.	66.9	*Conditionally Acceptable*	Interior Analysis
Bldg 17	Nutmeg St.	65.6	*Conditionally Acceptable*	Interior Analysis

[1] Based on the Table 11-2 compatibility criteria of the City of Murrieta General Plan Noise Element (Exhibit 3-A)

No exterior noise mitigation is required to satisfy the City of Murrieta General Plan Noise Element exterior land use/noise level compatibility criteria for the multifamily residential uses. Adjacent to Washington Avenue and Nutmeg Street, residential uses are shown to experience *conditionally acceptable* exterior noise levels of 65.1 to 66.9 dBA CNEL. Therefore, because of the future unmitigated exterior traffic noise levels at the project site, additional interior noise analysis is required to satisfy the General Plan Noise Element *conditionally acceptable* residential use requirements within the project site.

To ensure that the interior noise levels comply with the City of Murrieta interior noise level standards, future noise levels were calculated at the first and second-floor building façades. The interior noise level is the difference between the predicted exterior noise level at the building facade and the noise reduction of the structure. Typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." However, sound leaks, cracks and openings within the window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including: (1) weather-stripped solid core exterior doors; (2) upgraded dual glazed windows; (3) mechanical ventilation/air conditioning; and (4) exterior wall/roof assemblies free of cut outs or openings.

Tables XIII-16 and XIII-17 show that the buildings within the Project will require a windows-closed condition and a means of mechanical ventilation (e.g. air conditioning). Table XIII-16 shows that the future exterior noise levels at the first-floor building façades are expected to range from 65.1 to 66.9 dBA CNEL. The first-floor interior noise level analysis shows that the City of Murrieta 45 dBA CNEL residential interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27 as shown on Exhibit ES-A (see Appendix 8 ESA-1, Summary of On-Site Recommendations).

Table XIII-16
FIRST-FLOOR INTERIOR NOISE IMPACTS (CNEL)

Receiver Location	Noise Level at Façade[1]	Required Interior Noise Reduction[2]	Estimated Interior Noise Reduction[3]	Upgraded Windows[4]	Interior Noise Level[5]
Bldg 6	65.1	20.1	25.0	No	40.1
Bldg 7	65.7	20.7	25.0	No	40.7
Bldg 15	65.1	20.1	25.0	No	40.1
Bldg 16	66.9	21.9	25.0	No	41.9
Bldg 17	65.6	20.6	25.0	No	40.6

[1] Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).
[2] Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.
[3] A minimum of 25 dBA noise reduction is assumed with standard building construction.
[4] Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?
[5] Estimated interior noise level with minimum STC rating for all windows.

Table XIII-17
SECOND-FLOOR INTERIOR NOISE IMPACTS (CNEL)

Receiver Location	Noise Level at Façade[1]	Required Interior Noise Reduction[2]	Estimated Interior Noise Reduction[3]	Upgraded Windows[4]	Interior Noise Level[5]
Bldg 6	65.1	20.1	25.0	No	40.1
Bldg 7	65.6	20.6	25.0	No	40.6
Bldg 15	65.1	20.1	25.0	No	40.1
Bldg 16	66.8	21.8	25.0	No	41.8
Bldg 17	65.6	20.6	25.0	No	40.6

[1] Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).
[2] Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.
[3] A minimum of 25 dBA noise reduction is assumed with standard building construction.
[4] Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?
[5] Estimated interior noise level with minimum STC rating for all windows.

Table XIII-17 shows the future unmitigated noise levels at the second-floor building façades are expected to range from 65.1 to 66.8 dBA CNEL. The second-floor interior noise level analysis shows that the City of Murrieta 45 dBA CNEL residential interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27 as shown on Exhibit ES-A.

NOI-9 ***The first-floor interior noise level analysis shows that the City of Murrieta 45 dBA CNEL residential interior noise level can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27. The developer shall install windows and sliding glass doors on the first-floor of all units.***

With incorporation of upgraded construction materials, interior noise level impacts would be considered less than significant.

b. *Less Than Significant With Mitigation Incorporated* – Refer to the construction vibration impact evaluation in Section a above. Mitigation is provided to reduce vibration impacts during construction to a less than significant impact level.

c. *No Impact* – According to page 5.7-17 (Noise Chapter of the GP EIR), there is one source of air traffic affecting noise levels within the City of Murrieta; the French Valley Airport, located outside the City's sphere of influence. Aircraft flyovers are heard occasionally in the City; however, the aircraft do not contribute a significant amount of routine noise in the City. Based on this information, the project site is not located within an airport land use plan (Figure IX-3) or within the vicinity of a private airstrip (Figure XIII-2). As such, the project would not expose people residing in the project area to excessive aircraft noise levels. Therefore, no impacts are anticipated.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIV. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

SUBSTANTIATION

a. *Less Than Significant Impact* – The proposed Washington/Nutmeg Multifamily Development Project would convert vacant land located within the City of Murrieta within the City's ~~multifamily residential~~ Multiple-Family Residential land use designation. The Project will develop 17 apartment buildings containing 210 multifamily housing units. This includes 88 one-bedroom units; 88 two-bedroom units; and 34 three-bedroom units. The Southern California Association of Government (SCAG) 2019 Local Profile for the City of Murrieta indicates that the 2018 population was 113,541.[3] The 2016-2040 RTP/SCS Adopted Growth Forecast projects an estimated City population of 129,800 by the year 2040.[4] The SCAG 2019 Local Profile for the City of Murrieta indicates that the average household size is 3.3 persons. As such, the development of 210 multi-family housing units is anticipated to house 693 persons. Given that the current population of Murrieta is over 16,000 persons less than the projected 2040 population, and about 20,000 persons less than the City of Murrieta General Plan build-out population projection of 133,452 persons, the potential for an additional 693 residents within the City of Murrieta is considered less than significant as the project represents only about 3.5% of the potential growth anticipated between the present population and the City's projected build-out population.

Additionally, the 2016-2040 RTP/SCS Adopted Growth Forecast projects that the total number of households within the City by 2040 will be 43,500, while the SCAG 2019 Local Profile for the City indicates that the total number of households within the City is 34,498, while the City's General Plan EIR indicates that the buildout population is anticipated to require 44,484 households. As such, the addition of 210 residential units would be well within the projected number of households that would be developed in the next 20 years. These units would contribute to the housing needs within the City, which, as determined by the SCAG Regional Housing Needs Assessment Final Allocation Plan 1/1/14-10/1/21,[5] was determined to be 1,573 units.[6] Given the above, the proposed Project would not induce population growth beyond that which has been planned for in the City General Plan or SCAG planning documents, or that can be accommodated by the Project and the City. Therefore, impacts would be less than significant. No mitigation is required.

[3] https://www.scag.ca.gov/Documents/Murrieta.pdf
[4] http://scagrtpscs.net/Documents/2016/draft/d2016RTPSCS_DemographicsGrowthForecast.pdf
[5] According to SCAG, "the RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth, so that collectively the region and subregion can grow in ways that enhance quality of life, improve access to jobs, promotes transportation mobility, and addresses social equity, fair share housing needs."; The intent of the future needs allocation by income groups is to relieve the undue concentration of very low and low-income households in a single jurisdiction and to help allocate resources in a fair and equitable manner.
[6] http://www.scag.ca.gov/Documents/5thCyclePFinalRHNAplan.pdf;

b. *No Impact* – No occupied residences/homes are located on the vacant project site; therefore, implementation of the proposed Project will not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No impacts will occur; therefore, no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XV. PUBLIC SERVICES: 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:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

SUBSTANTIATION

a. *Less Than Significant Impact* – The proposed project site is served by City of Murrieta Fire & Rescue. The closest station to the proposed project site is Station 5, which is located on 38391 Vineyard Parkway, approximately 1 mile southwest of the project site. According to the City General Plan EIR, fire protection for the City at buildout should be feasible based on the existing fire stations, with perhaps some additional equipment.

The General Plan EIR finding is based on continuing to be able to meet 90% of urban calls within a 6.5-minute target response time. The project site is clearly within a distance (approximately 1 mile) where any future calls can be responded to within 6.5 minutes. Further, the City Fire Department must review this project to ensure that adequate fire flow will occur at the project site, especially given that 210 new residences will be developed.

The proposed Project will incrementally add to the existing demand for fire protection services. Cumulative impacts are mitigated through the payment of the Development Impact Fee (DIF), which contains a Fire Facilities component. There is no identified near term need to expand facilities in a manner that could have adverse impacts on the environment. The City's General Fund covers operational expenses, and the proposed Project will contribute both sales taxes and property taxes to the general fund to offset this incremental demand for fire protection services. Any impacts are considered less than significant and no mitigation is required.

b. *Less Than Significant Impact* – The proposed Project would have law enforcement services available from the City of Murrieta Police Department and the California Highway Patrol. According to the City General Plan EIR, law enforcement protection for the City at buildout should be feasible based on incremental expansion of the number of officers, with perhaps some additional office space at the police station at 1 Town Square. The project site is located within existing patrol routes and future calls can be responded to within the identified priority call target response times. The City seeks to respond to

Priority 1 calls within six minutes; Priority 2 calls with 15 minutes and Priority 3 calls within 35 minutes. The City performs slightly below these objectives, but only marginally.

The proposed Project will incrementally add to the existing demand for police protection services. These incremental impacts are mitigated through the payment of the DIF, which contains a Law Enforcement component. The City's General Fund covers operational expenses. The Project will contribute property and sales taxes to the general fund to offset this incremental demand for police protection services. Any impacts are considered less than significant and no additional mitigation is required.

c. *Less Than Significant Impact* – The proposed project would develop 210 market-rate apartment units, and would likely generate a new demand for school services within the area. The estimated school generation rates for the project are as follows based on the generation rates included in the City's General Plan EIR:

- The Project would generate between 33.6 to 189 K-5 students
- The Project would generate between 31.9 to 63 Middle School students
- The Project would generate between 33.6 to 127 High School students

The Murrieta Valley Unified School District (MVUSD) currently requires a mitigation payment per square foot of residential development. The development impact fee mitigation program of the MVUSD adequately provides for mitigating the impacts of the proposed Project in accordance with current state law. Furthermore, the MVUSD Director of Facilities and Planning indicated that the MVUSD would be able to accommodate the student growth that would correspond the overall growth identified in the City's DEIR—which indicated that an additional 10,734 dwelling units may be developed by City buildout. No other mitigation is identified or needed. Since payment of school fees is a mandatory requirement, no additional mitigation measures are required to reduce school impacts of the proposed Project to a less than significant level.

d. *Less Than Significant Impact* – The proposed Project would develop 210 market rate apartment units, and would likely generate a new demand for parks and recreation. However, the project does include the following open space/recreation related and other amenities: a clubhouse with open kitchen, BBQ area and fire-pit with seating; swimming pool with spa; exercise room; children's play area with play equipment; dog park; bocce court with BBQ area; outdoor evening movie area; open grass play area; tech room; a leasing office with conference room; and enclosed mail room with dedicated area for on-line packaging area. The potential increase in population related to the Washington/Nutmeg Multifamily Development Project is estimated to be 693 persons. The City has an adopted standard of 5 acres of parkland for every 1,000 persons, as such the Project would require an additional 3.47 acres of parkland to accommodate the project. The addition of parkland within the City relies on funds generated by the Quimby Act, which the proposed Project will be subject to. Given that the General Plan EIR deems the use of Quimby Act fees as appropriate mitigation for parkland, it is anticipated that, through payment of any necessary Quimby Act fees, which is considered a standard condition, the proposed Project will have a less than significant impact to parks and recreation facilities.

e. *Less Than Significant Impact* – As stated above, the proposed project will install amenities, some of which may be considered other public facilities that will accommodate many of the project residents' needs. The proposed project will incrementally add to the existing demand for library services. These incremental impacts are mitigated through the payment of the DIF, which contains a Library component. Payment of DIF is deemed adequate mitigation for the proposed Project as it will offset future demand generated by potential new residents. Any impacts are considered less than significant and no additional mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. RECREATION:				
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

SUBSTANTIATION

a. *Less Than Significant Impact* – As addressed in the discussion under issue XIV, Population and Housing, and XV(d) above, the proposed Project would develop 210 market rate apartments, and as such result in a population increase, though not substantially. As stated in the discussion under Population and Housing, an estimated 693 persons may reside at the new Washington/Nutmeg Multifamily Development. The Apartments include park- and recreation-like amenities that would support some of the new residents' park and recreation needs. Additionally, the proposed Project will be required to comply with the payment of any required Quimby Act fees to enhance park and recreation facilities within the City. Thus, with the above provisions, the proposed Project will not generate a substantial increase in residents of the City who would increase the use of existing recreational facilities. Therefore, any impacts under this issue are considered less than significant. No mitigation is required.

b. *Less Than Significant Impact* – The proposed Project consists of the 210 market rate apartments in the City of Murrieta. The Project will not include any recreational facilities beyond those installed for resident and resident guest use only. The site is mostly vacant with no existing recreational facilities on or near the project site and is designated for multifamily residential use. As described throughout this Initial Study, the construction of the proposed Washington/Nutmeg Multifamily Development Project would not cause a significant adverse physical effect on the environment beyond those potential impacts identified under Aesthetics. As a result, no recreational facilities beyond the minor facilities proposed to be provided for resident use only are required to serve the Project, thus any impacts under this issue are considered less than significant. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVII. TRANSPORTATION: Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous inter-sections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

SUBSTANTIATION: The following section is based on the "Tentative Parcel Map No. 30394 Focused Traffic Impact Analysis City of Murrieta" (TIA) prepared by Urban Crossroads dated November 27, 2019. The TIA is provided as Appendix 9.

CEQA Section 15064.3, subdivision (b):
(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

a. *Less Than Significant With Mitigation Incorporated* – An area plan for the proposed Project is shown on Figure XVII-1. The Project is to consist of 210 market rate apartments. It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2022. For the purpose of this analysis, the following driveways will be assumed to provide access to the Project site:

- Driveway 1 on Washington Avenue – Full Access
- Driveway 2 on Nutmeg Street– Full Access

Regional access to the Project site is available from the I-15 Freeway via Clinton Keith Road to the north or California Oaks Road to the south.

Background Information from the TIA

Trips generated by the Project's proposed land uses have been estimated based on the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) for Multifamily Housing (Low-Rise, 2 floors) (ITE Land Use Code 220). The Project generates a total of 1,538 trip-ends per day on a typical weekday with approximately 97 AM peak hour trips and 118 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2019)
- Existing Plus Project (E+P)
- Existing Plus Ambient Growth Plus Project (EAP) (2022)
- Existing Plus Ambient Growth Plus Project Plus Cumulative Projects (EAPC) (2022)

Refer to Appendix 9, the TIA, for a description of the traffic analysis scenarios. To ensure that this TIA satisfies the traffic study requirements agreed upon with the City, Urban Crossroads, Inc. prepared a project traffic study scoping package for review and approval by City staff prior to the preparation of this report. The following three study area intersections shown on Figure XVII-2 and listed in Table XVII-1 were selected for this TIA based on consultation with staff. The study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per the City's traffic study guidelines or have been added at the request of City staff. The "50 peak hour trip" criteria generally represents a minimum number of trips at which a typical intersection would have the potential to cause a deficiency by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area (i.e., study area) and has been utilized for other City if Murrieta projects.

Table XVII-1
INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction	CMP?
1	Washington Avenue & Driveway 1 – Future Intersection	City of Murrieta	No
2	Washington Avenue & Calle Del Oso Oro/Nutmeg Street	City of Murrieta	No
3	Driveway 2 & Nutmeg Street – Future Intersection	City of Murrieta	No

The intent of a Congestion Management Program (CMP) is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. None of the study area intersections are identified as CMP facilities in the Riverside County CMP.

The roadway segment study area utilized for this analysis is based on a review of the key roadway segments. The study area identifies a total of 3 existing roadway segments. The roadway segments include the segments on either side of the study area intersections and are listed in Table XVII-2.

Table XVII-2
ROADWAY SEGMENT ANALYSIS LOCATIONS

ID	Roadway Segment	Jurisdiction
1	Washington Avenue, north of Nutmeg Street	City of Murrieta
2	Washington Avenue, south of Nutmeg Street	City of Murrieta
3	Nutmeg Street, east of Washington Avenue	City of Murrieta

Regarding the TIA study methodologies, please refer Appendix 9, Chapter 2.

Existing Circulation Network
Pursuant to the agreement with City staff (Appendix 1.1 of Appendix 9), the study area includes a total of three existing and future intersections as shown previously on Figure XVII-2. Figure XVII-3 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

General Plan Circulation Element
Figure XVII-4 shows the City General Plan Circulation Element, and Figure XVII-5 illustrates the General Plan roadway cross-sections.

Secondary Highways are intended to serve through traffic along longer routes between major traffic generating areas or to serve property zoned for multi-family residential, secondary industrial or commercial uses. Examples of Secondary Highways within the study area include:

- Washington Avenue
- Calle Del Oso Oro/Nutmeg Street

Bicycle and Pedestrian Facilities
Figure XVII-6 illustrates the City General Plan trails and bikeways. There are Class II bike lanes that currently exist along Calle Del Oso Oro and proposed Class II bike lanes along Washington Avenue and Nutmeg Street. Class II bike lanes are striped on-street bike lanes. Existing pedestrian facilities within the study area are shown on Figure XVII-7. Field observations conducted in August 2019 indicate nominal pedestrian and bicycle activity within the study area, with the exception of the southbound direction along Washington Avenue during the AM peak hour only. The increased pedestrian and bicycle activity observed in the southbound direction in the AM peak hour is likely attributable to students attending Murrieta Valley High School to the south.

Transit Service
The study area is currently served by Riverside Transit Authority (RTA), a public transit agency serving various jurisdictions within Riverside County. The existing bus routes provided within the area by RTA are shown on Figure XVII-8. The study area currently served by RTA Route 205/206, which operates along the I-15 Freeway. There are currently no existing bus routes near the Project along Washington Avenue or Nutmeg Street. Transit service is reviewed and updated by RTA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

Existing (2019) Traffic Counts

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in August 2019. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1 of Appendix 9. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic (e.g., between ramp-to-arterial intersections, etc.).

Existing AM and PM peak hour turning movement volumes and average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Figure XVII-9. Existing ADT volumes are based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 11.52 = Leg Volume

For those roadway segments which have 24-hour tube count data available in close proximity to the study area, a comparison between the PM peak hour and daily traffic volumes indicated that the peak-to-daily relationship of approximately 8.68 percent would sufficiently estimate ADT volumes for planning-level analyses. As such, the above equation utilizing a factor of 11.52 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.68 percent (i.e., 1/0.0868 = 11.52).

Existing (2019) Conditions Intersection Operations Analysis

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table XVII-3, which indicates that the study area intersection currently operates at an acceptable LOS during the peak hours. Consistent with Table XVII-3, a summary of the peak hour intersection LOS for Existing conditions are shown on Figure XVII-9. The intersection operations analysis worksheets are included in Appendix 3.2 of Appendix 9.

Roadway Segment Analysis

The roadway segment capacities utilized for the purposes of this analysis are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table XVII-4 provides a summary of the Existing (2019) conditions roadway segment capacity analysis based on the applicable roadway segment capacities. As shown in Table XVII-4, the study area roadway segments are currently operating at an acceptable LOS based on the applicable planning level daily roadway capacity thresholds with the exception of the following segment:

- Nutmeg Street, East of Washington Avenue (#3) – LOS D

Table XVII-3
INTERSECTION ANALYSIS FOR EXISTING (2019) CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Washington Av. & Driveway 1		Intersection Does Not Exist															
2	Washington Av. & Calle Del Oso Oro/Nutmeg St.	TS	1	1	1	1	2	0	1	1	1	1	1	1	38.4	43.2	D	D
3	Driveway 2 & Nutmeg St.		Intersection Does Not Exist															

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right

[2] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal

Existing (2019) Conditions Traffic Signal Warrants Analysis

Traffic signal warrant analysis has not been performed as all of the existing study area intersections are currently signalized.

Project Trip Generation

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development. Trip generation rates used to estimate Project traffic are shown in Table XVII-4. The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual, 10th Edition, 2017, for Multifamily Housing (Low-Rise, 2 floors) (ITE Land Use Code 220). As shown in Table XVII-4, the proposed Project is anticipated to generate a net total of 1,538 trip-ends per day with 97 AM peak hour trips and 118 PM peak hour trips.

Table XVII-4
PROJECT TRIP GENERATION SUMMARY

Land Use	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Trip Generation Rates[1]									
Multifamily Housing (Low-Rise) (2-floors)	DU	220	0.11	0.35	0.46	0.35	0.21	0.56	7.32

Land Use	Quantity	Units[2]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Trip Generation Summary									
Market Rate Apartments	210	DU	22	74	97	74	44	118	1,538

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

[2] DU = Dwelling Units

Project Trip Generation

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. The Project trip distribution patterns are graphically depicted on Figure XVII-10.

Modal Split
The potential for Project trips to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

Project Trip Assignment
The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project only ADT and peak hour intersection turning movement volumes are shown on Figure XVII-11.

Background Traffic
Future year traffic forecasts have been based upon a background (ambient) growth factor of 2% per year, compounded annually. The ambient growth factor is intended to approximate traffic growth. The total ambient growth is 6.12% for 2022 traffic conditions (compounded growth of 2 percent per year over 3 years). This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

Cumulative Development Traffic
California Environmental Quality Act (CEQA) guidelines require that other reasonably foreseeable development projects which are either approved or being processed concurrently in the study area also be included as part of a cumulative analysis scenario. A cumulative project list was developed from consultation with the City of Murrieta and City of Wildomar staff.

Figure XVII-12 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are provided in Table XVII-5. If applicable, the traffic generated by individual cumulative projects was manually added to EAPC (2022) traffic conditions forecasts to ensure that traffic generated by the listed cumulative development projects in Table XVII-5 are reflected as part of the background traffic. The ADT and peak hour intersection turning movement volumes generated by the cumulative development projects are shown in Figure XVII-13.

Near-Term Conditions
The "buildup" approach has been utilized which combines existing traffic counts with a background ambient growth factor to forecast the EAP (2022) and EAPC (2022) traffic conditions. An ambient growth factor of 6.12% accounts for background (area-wide) traffic increases that occur over time up to the year 2022 from the year 2019 (compounded 2 percent per year growth over a 3-year period). Project traffic is added to assess EAP (2022) and EAPC (2022) traffic conditions, respectively. Traffic volumes generated by cumulative development projects are then added to assess the EAPC (2022) traffic conditions. The 2022 roadway networks are similar to the existing conditions roadway network with the exception of future roadways and intersections proposed to be developed by the Project.

Table XVII-5
CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
		CITY OF MURRIETA		
M1	The Vineyards (VTTM 28903) (EXT-2019-1864)	SFDR	1012	DU
M2	Fast 5 Car Wash (DP-2019-1857)	Car Wash	4,975	TSF
M3	Jefferson Residential	Apartments	160	DU
M4	Raising Cane's (DP-2018-1782)	Fast-Food w/ Drive Through	3,796	TSF
M5	TTM 37621 (TTM-2018-1780)	SFDR	25	DU
M6	25190 Washington Av. (TTM 36848) (TTM-2018-1744)	SFDR	86	DU
M7	Pars Global (DP-2018-1657)	Self-Storage	113,395	TSF
M8	Wyndham Timeshare - WorldMark (DP-2018-1593)	Timeshare	161	DU
M9	Murrieta Gateway Business Park (DP-2017-1391)	Industrial Park	285,270	TSF
		Hotel	150	ROOMS
		Retail with Gas Station	43,400	TSF
M10	Pinnacle Senior Living (DP-2018-992)	Assisted Living	108	BED
M11	TTM 31467 (DP-2013-255)	Condo/Townhomes	64	DU
M12	TTM 30953 (DP-2014-275)	Condo/Townhomes	141	DU
M13	Dollins Mixed Use (DP-2013-118)	Apartments	2	DU
		Commercial	6,212	TSF
M14	Downtown Market Place (DP-2018-118)	Commercial & Office	51,455	TSF
M15	Able Self Storage (DP-2017-1299)	Self-Storage	191,898	TSF
M16	Fresnius (DP-2017-1359)	Medical Center	33,100	TSF
M17	The Village Patio (DP-201-470)	Outdoor Beer & Wine Garden	1,244	TSF
M18	Lemon & Adams (TTM 37430)	SFDR	12	DU
M19	Santa Rosa Highlands (DP-201-1480) (50% occupied)	SFDR (remaining)	135	DU
		CITY OF WILDOMAR		
W1	Wildomar Crossings	Free Standing Discount Store	10,000	TSF
		Auto Parts Sales	7,004	TSF
		Fast-Food w/ Drive Through	2,600	TSF
		Retail	3,300	TSF
		Fast-Food w/o Drive Through	3,300	TSF
W2	Lesle Tract Map	SFDR	10	DU
W3	Richmond American	SFDR	149	DU
W4	Camelia Townhouse Project	Condo/Townhomes	163	DU
W5	Rancon Medical & Retail Center	Retail	200,000	TSF
		Office	94,000	TSF
W6	Cornerstone Church Preschool & Admin. Building	School	170	STU
		Office	25,462	TSF
W7	Elm Street Subdivision	SFDR	14	DU
W8	Walmart Retail Project	Free-Standing Discount Superstore	193,792	TSF
W9	McVicar Residential Project	SFDR	47	DU
W10	Smith Ranch Self Storage	Self-Storage	150,000	TSF
		Office	10	TSF
W11	Life-Storage Mini Warehouse	Self-Storage	60,800	TSF

Table XVII-5, continued
CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
W12	Commons at Hidden Springs	Fast-Food w/ Drive Through	7.300	TSF
		Shopping Center	7.890	TSF
		Supermarket	26.500	TSF
		Pharmacy w/ Drive Through	24.700	TSF
		Coffee/Donut Shop w/ Drive Through	1.800	TSF
W13	Westpark Promenade Development (mixed use)	Shopping Center	118.354	TSF
		Condo/Townhomes	191	DU
W14	Villa Sienna Apartment Project	Condo/Townhomes	190	DU
W15	Grove Park Mixed Use Project	Condo/Townhomes	162	DU
		Retail	50.000	TSF
W16	Baxter Village	Shopping Center	75.000	TSF
		SFDR	67	DU
		Condo/Townhomes	204	DU
W17	Horizons/Strata Mixed Use Project	Assisted Living	86	BED
		Condo/Townhomes	138	DU
W18	Orange Bundy/Parcel Map	Retail	73.497	TSF
		Fast Food w/ Drive Through	1.500	TSF
		Gas Station w/ Market	6	VFP
W19	Oak Creek Canyon	SFDR	275	DU
W20	Bundy Canyon Plaza	Shopping Center	35.390	TSF
W21	Wildomar Shooting Academy[3]	Gun Shooting Range	–	–
W22	The "Village at Monte Vista"	SFDR	80	DU
		Business Park	136.000	TSF
W23	Diversified Pacific Homes	SFDR	51	DU
W24	Pacific cove Inv.	SFDR	70	DU
W25	Beazer Homes	SFDR	108	DU
W26	Clinton Keith village Retail Center	Shopping Center	40.000	TSF
W27	Baxter/Susan GPA/TTM	SFDR	48	DU
W28	Ione/Palomar Residential	SFDR	60	DU
W29	Rhoades Residential Project	SFDR	131	DU
W30	Nova Homes Residential	SFDR	77	DU
W31	Darling/Bundy Canyon Residential	Condo/Townhomes	140	DU
W32	Faith Bible Church	Church	45.155	TSF
W33	Milestone RV/Boat Storage	Self-Storage	8.300	TSF

[1] SFDR = Single Family Detached Residential

[2] DU = Dwelling Unit, TSF = Thousand Square Feet, BED = Beds, VFP = Vehicle Fueling Positions

[3] Source: Gun Shooting Ranges/Tactical Training Facility Traffic Impact Analysis (Revised), Urban Crossroads, Inc., July 2013

The near-term traffic analysis includes the following traffic conditions (refer to Appendix 9, Analysis Scenarios) with the various traffic components:

- Existing Plus Ambient Growth Plus Project (EAP) (2022)
  - Existing 2019 volumes
  - Ambient growth traffic (6.12%)
  - Project Traffic
- Existing Plus Ambient Growth Plus Project Plus Cumulative (EAPC) (2022)
  - Existing 2019 volumes
  - Ambient growth traffic (6.12%)
  - Cumulative Development traffic
  - Project Traffic

E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Existing plus Project (E+P) conditions and the resulting intersection operations and traffic signal warrant analyses.

Roadway Improvements

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Figure XVII-3, with the exception of the Project driveways and those facilities assumed to be in place prior to or constructed by the Project to provide site access are also assumed to be in place for E+P conditions. This includes the Project site adjacent roadway and site access intersection improvements.

E+P Traffic Volume Forecasts

This scenario includes Existing traffic volumes plus Project traffic. Figure XVII-14 shows the weekday ADT and peak hour volumes which can be expected for E+P traffic conditions.

Intersection Operations Analysis

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this Appendix 9. The intersection analysis results are summarized in Table XVII-6 and shown on Figure XVII-15, which indicates that all of the study area intersections are anticipated to operate at an acceptable LOS under E+P traffic conditions, consistent with Existing traffic conditions. The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1 of Appendix 9.

Table XVII-6
INTERSECTION ANALYSIS FOR E+P CONDITIONS

#	Intersection	Traffic Control[3]	Existing (2019) Delay[2] (secs.) AM	Existing (2019) Delay[2] (secs.) PM	Existing (2019) Level of Service AM	Existing (2019) Level of Service PM	E+P Delay[2] (secs.) AM	E+P Delay[2] (secs.) PM	E+P Level of Service AM	E+P Level of Service PM
1	Washington Av. & Driveway 1	CSS	Future Intersection				11.0	11.8	B	B
2	Washington Av. & Calle Del Oso Oro/Nutmeg St.	TS	38.4	43.2	D	D	40.4	44.6	D	D
3	Driveway 2 & Nutmeg St.	CSS	Future Intersection				11.6	14.1	B	B

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[2] CSS = Cross-street Stop; TS = Traffic Signal; CSS = Improvement

Roadway Segment Analysis

The roadway segment capacities utilized for the purposes of this analysis are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table XVII-6 provides a

summary of the E+P conditions roadway segment capacity analysis based on the applicable roadway segment capacity. As shown in Table XVII-6, all the study area roadway segments are anticipated to operate at an acceptable LOS under E+P conditions with the addition of Project traffic. The site adjacent improvements to be implemented by the Project include a 3-lane section along the Project's frontage on Nutmeg Street. As such, the segment of Nutmeg Street, east of Washington Avenue, assumes a 3-lane roadway section for E+P traffic conditions.

Traffic Signal Warrants Analysis

There are no traffic signals anticipated to meet planning level (daily volume) based traffic signal warrants with the addition of Project traffic for E+P traffic conditions (see TIA Appendix 5.2 of Appendix 9).

Recommended Improvements

The study area intersections and roadway segments are anticipated to operate at an acceptable LOS for E+P traffic conditions, as such, no improvements have been recommended.

EAP (2022) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAP (2022) conditions and the resulting intersection operations and traffic signal warrant analyses.

Roadway Improvements

The lane configurations and traffic controls assumed to be in place for EAP (2022) conditions are consistent with those shown previously on Figure XVII-3, with the exception of the Project driveways and those facilities assumed to be in place prior to or constructed by the Project to provide site access are also assumed to be in place for EAP (2022) conditions. This includes the Project site adjacent roadway and site access intersection improvements.

EAP (2022) Traffic Volume Forecasts

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.12% and the addition of Project traffic. The weekday ADT, weekday AM, and PM peak hour volumes which can be expected for EAP (2022) traffic conditions are shown on Figure XVII-16.

Intersection Operations Analysis

EAP (2022) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TIA. The intersection analysis results are summarized in Table XVII-7 and shown on Figure XVII-17, which indicates that the study area intersections are anticipated to operate at an acceptable LOS under EAP (2022) traffic conditions. The intersection operations analysis worksheets for EAP (2022) traffic conditions are included in Appendix 6.1 of Appendix 9.

Roadway Segment Analysis

The roadway segment capacities utilized for the purposes of this analysis are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table XVII-7 provides a summary of the EAP (2022) traffic conditions roadway segment capacity analysis based on the applicable roadway segment capacity. As shown in Table XVII-7, the all the study area roadway segments are anticipated to operate at an acceptable LOS under EAP (2022) traffic conditions. The site adjacent improvements to be implemented by the Project include a 3-lane section along the Project's frontage on Nutmeg Street. As such, the segment of Nutmeg Street, east of Washington Avenue, assumes a 3-lane roadway section for EAP traffic conditions.

Table XVII-7
ROADWAY SEGMENT CAPACITY ANALYSIS FOR EAP (2022) CONDITIONS

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing (2019)	V/C[2]	LOS[3]	EAP (2022)	V/C[2]	LOS[3]	Acceptable LOS	General Plan Classification
1	Washington Av.	North of Nutmeg St.	4D	25,900	11,066	0.43	A	11,975	0.46	A	D	Secondary
2	Washington Av.	South of Nutmeg St.	4D	25,900	20,028	0.77	C	21,453	0.83	D	D	Secondary
3	Nutmeg St.	East of Washington Av.	2D	18,000	10,971	0.61	B	12,030	0.67	B	D	Secondary

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been extracted from the following source: County of Riverside Environmental Impact Report No. 521 (Table 4.18-D).

[2] v/c = Volume to Capacity ratio

[3] LOS = Level of Service

Traffic Signal Warrants Analysis

There are no traffic signals anticipated to meet planning level (daily volume) based traffic signal warrants with the addition of Project traffic for EAP (2022) traffic conditions (see Appendix 6.2) of Appendix 9.

EAPC (2022) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAPC (2022) conditions and the resulting intersection operations and traffic signal warrant analyses.

Roadway Improvements

The lane configurations and traffic controls assumed to be in place for EAPC (2022) conditions are consistent with those shown previously on Figure XVII-3, with the exception of the following:

- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC (2022) (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways). This includes restriping and roadway improvements that would be implemented by the adjacent Pinnacle Senior Living project.

Project driveways and those facilities assumed to be in place prior to or constructed by the Project to provide site access are also assumed to be in place for EAPC (2022) conditions. This includes the Project site adjacent roadway and site access intersection improvements.

EAPC (2022) Traffic Volume Forecasts

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.12% in conjunction with the addition of cumulative project development and the addition of Project traffic. The weekday ADT, weekday AM, and PM peak hour volumes which can be expected for EAPC (2022) traffic conditions are shown on Figure XVII-18.

Intersection Operations Analysis

EAPC (2022) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TIA. The intersection analysis results are summarized in Table XVII-8 and shown on Figure XVII-19, which indicates that the study area intersections are anticipated to operate at an acceptable LOS under EAPC (2022) traffic conditions. The intersection operations analysis worksheets for EAPC (2022) traffic conditions are included in Appendix 7.1 of Appendix 9.

Table XVII-8
ROADWAY SEGMENT CAPACITY ANALYSIS FOR EAPC (2022) CONDITIONS

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing (2019)	V/C[2]	LOS[3]	EAPC (2022)	V/C[2]	LOS[3]	Acceptable LOS	General Plan Classification
1	Washington Av.	North of Nutmeg St.	4D	25,900	11,066	0.43	A	13,237	0.51	A	D	Secondary
2	Washington Av.	South of Nutmeg St.	4D	25,900	20,028	0.77	C	23,129	0.89	D	D	Secondary
3	Nutmeg St.	East of Washington Av.	2D	18,000	10,971	0.61	B	12,424	0.69	B	D	Secondary

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been extracted from the following source: County of Riverside Environmental Impact Report No. 521 (Table 4.18-D).

[2] v/c = Volume to Capacity ratio

[3] LOS = Level of Service

Roadway Segment Analysis

The roadway segment capacities utilized for the purposes of this analysis are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table XVII-8 provides a summary of the EAPC (2022) traffic conditions roadway segment capacity analysis based on the applicable roadway segment capacity. As shown in Table XVII-8, all the study area roadway segments are anticipated to operate at an acceptable LOS under EAPC (2022) traffic conditions. With the development of the proposed Project and the future cumulative project on the southeast corner of Washington Avenue and Nutmeg Street, a 4-lane roadway section (consistent with the Secondary classification) is assumed to be in place for EAPC traffic conditions.

Traffic Signal Warrant Analysis

There are no traffic signals anticipated to meet planning level (daily volume) based traffic signal warrants with the addition of Project traffic for EAPC (2022) traffic conditions (see Appendix 7.2 of Appendix 9).

Recommended Improvements

The study area intersections and roadway segments are anticipated to operate at an acceptable LOS for EAPC (2022) traffic conditions, as such, no improvements have been recommended.

Refer to Section 8 of Appendix 9 for a discussion of local and regional circulation system funding mechanisms. Transportation improvements within the City are funded through a combination of direct project mitigation, fair share contributions or development impact fee programs, such as the County's Transportation Uniform Mitigation Fee (TUMF) program and the City's Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

Conclusion

With implementation of proposed project improvements and one mitigation measure outlined below, the proposed project will not "conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities." The Project is proposing to construct the following improvements as design features in conjunction with development of the site:

- Construct Washington Avenue to its ultimate half-section width as a Secondary Highway (88-foot right-of-way) from the Project's northern boundary to Nutmeg Street in compliance with applicable standards. These improvements include roadway improvements, curb and gutter, and sidewalk improvements.
- Nutmeg Street appears to be constructed to its ultimate half-section along the Project's frontage on the north side as a Secondary Highway (88-foot right-of-way) in compliance with applicable City standards. However, the Project should construct the necessary curb and sidewalk modifications to accommodate the proposed Project driveway on Nutmeg Street.

- Construct Driveway 1 on Washington Avenue and Driveway 2 on Nutmeg Street as cross-street stop-controlled intersections. Driveway 1 will allow for full access (no turn restrictions) while Driveway 2 on Nutmeg Street will be restricted to right-in/right-out access only. Left turn storage into Driveway 1 is to be accommodated within the painted two-way-left-turn lane.

Recommendation 1.1: Prior to the issuance of building permits, the Project Applicant shall participate in the City's Development Impact Fee (DIF) and the County's Transportation Uniform Mitigation Fee (TUMF) programs by paying the requisite DIF and TUMF fees.

The following mitigation measures shall be implemented to ensure that the proposed project will have a less than significant impact to the circulation system:

TRAN-1 Prior to the issuance of building permits, the Project Applicant shall participate in the City's Development Impact Fee (DIF) program and the County's Transportation Uniform Mitigation Fee (TUMF) program by paying the requisite DIF and TUMF fees.

Based on the discussion above and the analysis provided in the TIA (Appendix 9), no further mitigation is required to minimize project impacts to circulation in the area. With the implementation of the mitigation measures identified above, the Project would have a less than significant potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

b. *Less Than Significant Impact* – Senate Bill 743 mandates that California Environmental Quality Act (CEQA) guidelines be amended to provide an alternative to Level of Service for evaluating transportation impacts. The amended CEQA guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) for transportation impact evaluation. Generally speaking, the intent of this legislation is to shift the focus from the impact drivers experience on the roadway network to the impact of driving motor vehicles itself. Currently, agencies may opt- in to applying the updated CEQA guidelines for VMT as the primary metric for transportation impact analysis; however, implementation is required State- wide by July 1, 2020. Several jurisdictions are currently in the process of developing updated procedures, methodologies, and thresholds for VMT analysis; however, very few have fully implemented the new metric and many agencies are looking to early adopters before determining how best to implement the new requirements. The City of Murrieta has yet to adopt updated guidelines for VMT analysis; therefore, VMT analysis is not included in the TIA, nor is the proposed project required to conduct VMT analysis unless the entitlement review process extends beyond the July 1, 2020 deadline.

c. *Less Than Significant Impact* – Design of driveways, internal roadways, and intersections will be based on City Code, which sets the standard for such design. As such the Project will construct the project access driveways in accordance with designs shown in Figure XVII-3. Based on these direct project design improvements in the circulation system, it is not anticipated that traffic hazards will increase. As such, the Project development would have a less than significant potential to increase hazards due to geometric design features or incompatible uses.

d. *Less Than Significant Impact* – Project access will be designed in accordance with all applicable design and safety standards required by adopted fire codes, safety codes, and building codes established by the City's Engineering and Fire Departments. The parking lots and site layouts will be designed to meet requirements to allow emergency vehicles adequate access. As with the discussion under issue XVII(c) above, the design of the proposed project will be reviewed by the City and Fire & Rescue to ensure that adequate emergency access is provided. Therefore, the proposed Project will have a less than significant potential to result in inadequate emergency access.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. TRIBAL CULTURAL RESOURCES: Would the project cause a substantial change in the significance of tribal cultural resources, 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 the California Native American tribe, and that is:				
a) 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	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in sub-division (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.	☐	☒	☐	☐

SUBSTANTIATION:

The project site consists of an undeveloped but highly disturbed property that is located on the northeast corner of the Washington Avenue and Nutmeg Street intersection. Based on the site-specific cultural resource evaluations of the project site, this site does not contain any surface historical or archaeological resources. Based on the consultation with the Pechanga Band of Luiseño Indians, the Soboba Band of Luiseño Indians, and the Rincon Band of Luiseño Indians, initiated by the City in conformance with AB 52 consultation requirements, the Tribes have requested that the project developer enter into an agreement to allow Native Americans to monitor ground disturbing activities during construction of the proposed project. The objective is to ensure that if any subsurface cultural resources are accidentally exposed during construction they will be properly managed by the Band or other appropriate stakeholder agency.

a. *Less Than Significant With Mitigation Incorporated* – The cultural resource surveys of the site determined that no historical or archaeological resources occur on the ground surface of the project site. Therefore, the potential to encounter any cultural resource that would qualify for listing in the California Register of Historical resources is considered negligible. However, in an abundance of caution a contingency mitigation measure (CUL-1) has been included to address the accidental exposure of subsurface cultural resources. This measure shall be implemented by the proposed project if it is approved.

b. *Less Than Significant With Mitigation Incorporated* – As indicated in the cultural resource technical study (Appendix 3), the project site does not contain any historical or archaeological resources on the surface of the project site. However, in accordance with the input from the Pechanga Band, Soboba Band, and the Rincon Band in response to the AB 52 consultation, the following mitigation measures will be implemented to ensure that no resources considered significant to the Band will experience an unavoidable significant adverse impact.

CEQA Tribal Cultural Resources Mitigation Measures

TCR-1 ***The project permittee/owner shall retain a Riverside County-certified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown cultural resources. Prior to grading, the project permittee/owner shall provide to the City verification that a certified archaeological monitor has been retained. Any newly discovered cultural resource deposits shall be subject to a cultural resources evaluation.***

TCR-2 ***Archaeological Monitoring: At least 30-days prior to grading permit issuance and before any grading, excavation, and/or ground-disturbing activities on the site take place, the project permittee/owner shall retain a Riverside County-certified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources.***

1. The Project Archaeologist, in consultation with consulting tribes, the permittee/owner, and the City, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include:

a. Project grading and development scheduling;

b. The development of a schedule in coordination with the permittee/owner and the Project Archeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation and ground-disturbing activities on the site: including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all project archaeologists; and,

c. The protocols and stipulations that the permittee/owner, City, tribes, and Project Archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

2. A final report documenting the monitoring activity and disposition of any recovered cultural resources shall be submitted to the City of Murrieta, Eastern Information Center and the consulting tribe within 60 days of completion of monitoring.

TCR-3 ***Native American Monitoring: Native American Tribal monitors shall also participate in monitoring of ground-disturbing activity. At least 30 days prior to issuance of grading permits, agreements between the permittee/owner and a Native American Monitor shall be developed regarding prehistoric cultural resources and shall identify any monitoring requirements and treatment of Tribal Cultural Resources so as to meet the requirements of CEQA. The monitoring agreement shall address the treatment of known Tribal Cultural Resources; the designation, responsibilities, and participation of professional Native American Tribal monitors during grading, excavation, and ground-disturbing activities; project grading and development scheduling.***

TCR-4 ***Disposition of Cultural Resources: In the event that Native American cultural resources are inadvertently discovered during the course of grading for this***

project, one or more of the following treatments, in order of preference, shall be employed with the tribes. Evidence of such shall be submitted to the City of Murrieta Planning Department:

1. ***Preservation-in-place means avoiding the resources, leaving them in the place where they were found with no development affecting the integrity of the resource.***

2. ***On-site reburial of the discovered items as detailed in the Monitoring Plan required pursuant to Mitigation Measure CUL-2. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of all Consulting Native American Tribal Governments.***

3. ***The permittee/owner shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources, and adhere to the following:***

    a. ***A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 Code of Federal Regulations 800 Part 79 and therefore would be curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation; and***

    b. ***At the completion of grading, excavation, and ground disturbing activities on-site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the Project Archaeologist and Native American Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Murrieta, Eastern Information Center and Consulting tribes.***

TCR-5 ***Human remains: If human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission must be contacted within 24 hours. The Native American Heritage Commission must then immediately identify the "most likely descendants(s)" for purposes of receiving notification of discovery. The most likely descendant(s) shall then make recommendations within 48 hours and***

engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

SUBSTANTIATION

a. Water

Less Than Significant Impact – Water will be provided by the Western Municipal Water District (Western or WMWD). Water service is available through a connection located adjacent to the project site. The project would be supplied with water by Western Municipal Water District that uses imported surface water to meet customer demand. As previously stated under issue X, Hydrology and Water Quality, the District's Urban Water Management Plan (2015) identifies sufficient water resources to meet demand in its surface area. Western's retail service area is primarily residential. The anticipated demand of water supply within Western's retail service area is anticipated to be greater than the demand for water in the future, which indicates that Western has available capacity to serve the proposed project. Therefore, development of the Nutmeg Apartments would not result in a significant environmental effect related to the relocation or construction of new or expanded water facilities. Impacts are less than significant.

Wastewater

Less Than Significant Impact – Wastewater collection will be provided by Western Municipal Water District and the project will connect to the sewer main adjacent to the project site. The Santa Rosa Regional Resources Authority (SRRRA) is a Joint Powers Authority formed by Elsinore Valley Municipal Water District (Elsinore), Rancho California Water District (Rancho), and Western Municipal Water District (Western) on November 12, 2015 to be responsible for the collection, transmission, treatment and disposal of wastewater from its member agencies relating to flows to the

Santa Rosa Water Reclamation Facility (SRWRF) in Murrieta, California.[7] As such, the project would connect to Western's existing wastewater collection system, and would install an internal wastewater collection system to treat sewage generated by residents of the Nutmeg Apartments, the development of which is not anticipated to cause a significant impact. Therefore, development of the Nutmeg Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded wastewater facilities. Impacts are less than significant.

Stormwater

Less Than Significant Impact – The surface runoff from the site, nonpoint source storm water runoff, will be managed in accordance with the WQMP as discussed in the Hydrology and Water Quality Section (Section X) of this Initial Study. Onsite flows will be collected at the southeast corner of the project site within a retention basin. This system will be designed to capture the peak 100-year flow runoff from the project site or otherwise be detained on site and discharged in conformance with Riverside County requirements. Therefore, surface water will be adequately managed on site and as such, development of the Nutmeg Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded stormwater facilities. Impacts are less than significant.

Electric Power

Less Than Significant Impact – Southern California Edison (SCE) will provide electricity to the site and the power distribution system located adjacent to the site will be able to supply sufficient electricity. The effort to connect to the existing electrical system, and to install electricity connections within the project site to serve future residents of the Nutmeg Apartments with electricity is not anticipated to result in significant impacts, as evidenced by the discussions in preceding sections. Therefore, development of the Nutmeg Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded electric power facilities. Impacts are less than significant.

Natural Gas

Less Than Significant Impact – Natural gas will be supplied by Southern California Gas. The site will connect to the existing natural gas line adjacent to the project site. The effort to connect to the existing gas line, and to install natural gas lines within the project site to serve future residents of the Nutmeg Apartments with natural gas is not anticipated to result in significant impacts, as evidenced by the discussions in preceding sections. Therefore, development of the Nutmeg Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded natural gas facilities. Impacts are less than significant.

Telecommunications

Less Than Significant Impact – Development of the Nutmeg Apartment Project would require a connection to telecommunication services, such as wireless internet service and phone service. This can be accomplished through connection to existing services that are available to the developer at the project site. Therefore, development of the Nutmeg Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded telecommunications facilities. Impacts are less than significant.

b. *Less Than Significant Impact* – Please refer to the discussion under Hydrology, Section X(b) above. The anticipated available water supply within Western's retail service area is anticipated to be greater than the demand for water in the future, which indicates that Western has available capacity to serve the proposed project. As such, given that Western's 2015 Urban Water Management Plan indicates that the water district anticipates ample water supply will be available to serve the project's daily demand. Therefore, the project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. Impacts under this issue are considered less than significant.

[7] https://srrra-jpa.org/64/About-Us

c. *Less Than Significant Impact* – The SRWRF uses a biological treatment process followed by chemical clarification, filtration, and disinfection to prepare the water for reuse. On average, the plant treats approximately 1 billion gallons of wastewater annually or 2,739,726 GPD average. The treatment plant is a sequencing batch reactor treatment facility with a secondary treatment capacity of 5 MGD and a tertiary treatment capacity of 5 MGD. Given the available capacities, it is anticipated that the facility has available capacity to accommodate the anticipated wastewater generated from the apartment project. It is estimated that a 210-apartment unit would house approximately 693 persons, as discussed under Population and Housing above, and as such would generate 100 gallons of wastewater per person per day, according to the City of Murrieta General Plan EIR. The project, therefore, would generate about 69,300 gallons of wastewater per day (GPD) or 0.0693 MGD. The generation of 0.0693 MGD of wastewater is equivalent to 3.07% of the available 2,260,274 GDP average capacity at the SRWRF. As such, it is anticipated that there will be available capacity to accommodate the demand generated by the proposed project. Impacts under this issue are less than significant.

d&e. *Less Than Significant Impact* – The proposed project will generate demand for solid waste service system capacity and has a potential to contribute to potentially significant cumulative demand impacts on the solid waste system. Solid waste generation rates included in the City of Murrieta General Plan EIR state that residential uses such as that which this project proposes can produce 12.3 pounds of refuse per dwelling unit per day. It is estimated that 210 market rate apartment units would generate about 2,583 pounds per day or 153.3 tons per year (12.3 x 210 x 365 = 942,795 pounds per year / 2,000 = 471.3 tons per year). Solid waste capacity has been expanded to provide adequate disposal capacity for cumulative demand over at least the next five years. Combined with the City's mandatory source reduction and recycling program, the proposed Project is not forecast to cause a significant adverse impact to the waste disposal system due to the available capacities at nearby landfills.

According to the Integrated Waste Management Board Jurisdiction Diversion and Disposal Profile for City of Murrieta, the following disposal facilities were used by the City of Murrieta in 2005 (the most recent year for which data was found): Bakersfield Sanitary Landfill (Kern), Badlands Disposal Site (Riverside), Colton Refuse Disposal Site (San Bernardino), El Sobrante Sanitary Landfill (Riverside), Fontana Refuse Disposal Site (San Bernardino), Lamb Canyon Disposal Site (Riverside), and Puente Hills Landfill #6 (Los Angeles). More than 50% of waste produced within Riverside County is also disposed of within the County. Descriptions of the primary disposal facilities and their capacity are summarized below.

El Sobrante Sanitary Landfill is located at 10910 Dawson Canyon Road east of Interstate 15 in the Gavilan Hills. According to the State of California's Solid Waste Information System, the landfill is active and permitted with a projected closure date of January 1, 2051. The site is currently permitted to a capacity of 209,910,000 cubic yards with a remaining capacity of 143,977,170 cubic yards and permitted throughput of 16,054 tons per day.

Badlands disposal site is located at 31125 Ironwood Ave, Moreno Valley 92373. According to the State of California's Solid Waste Information System, the landfill is active and permitted with a projected closure date of January 1, 2022. The site is currently permitted to a capacity of 34,400,000 cubic yards with a remaining capacity of 15,748,799 cubic yards and permitted throughput of 4,800 tons per day.

Lamb Canyon disposal site is located on Lamb Canyon Road three miles south of Beaumont 92223. According to the State of California's Solid Waste Information System, the landfill is active and permitted with a projected closure date of April 1, 2029. The site is currently permitted to a capacity of 38,935,653 cubic yards with a remaining capacity of 19,242,950 cubic yards and permitted throughput of 5,000 tons per day.

Several of the referenced landfills will be permitted to contain greater volumes of waste in the near future. Any hazardous materials collected on the project site during either construction or operation

of the Project will be transported and disposed of by a permitted and licensed hazardous materials service provider. Therefore, the Project is expected to comply with all regulations related to solid waste under federal, state, and local statutes and be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs. No further mitigation is necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XX. WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

SUBSTANTIATION

a. *Less Than Significant Impact* – The proposed project is not located within a Very High Fire Hazard Severity Zone in a Local Responsibility Area (LRA), shown on Figure XX-1. Please refer to the discussion under Subchapter IX(g), Hazards and Hazardous Materials. The project is located within a mixed-use area with adjacent residential areas and a small institutional center. The proposed Project site is not located in a Wildland Fire Protection Agreement Area and it does not contain a heavy fuel load at present. The City of Murrieta reviews all proposed projects and provides conditions of approval for setbacks; building and fire sprinkler requirements; roofing design and material and construction requirements, fuel modification; and other measures as appropriate to reduce the risk to the development and surrounding uses to fire hazards. Furthermore, given the urban setting within which the project is located and the local roadways, it is not anticipated that the development of the Washington/Nutmeg Multifamily Development Project within the project site would substantially impair an adopted emergency response or evacuation plan. Furthermore, the project would improve surrounding roadways to provide access to the project site, which would enhance emergency access in the project area.

b. *Less Than Significant Impact* – The proposed Project is characterized by essentially flat topography that has been disturbed by past grading activities. The site is characterized by non-native grasses and other weedy species. The potential for significant exposure of site occupants to pollutant concentrations from a wildfire would be minimal. The project site itself is not anticipated to be exposed to wildfire, particularly once developed because the site will be cleared, which will minimize wildfire fire risk. Based on the site location, and the condition of the site and surrounding area, the Project will have a less than significant potential to exacerbate wildfire risks, and thereby is not forecast to

expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. No mitigation is required.

c. *Less Than Significant Impact* – The Project will require associated infrastructure in support of the Washington/Nutmeg Multifamily Development Project operations/occupancy as follows: the Project will require a potable water connection to the Western Municipal Water District's service area; the project will require a wastewater connection to the sewer main on Washington Avenue; electricity provided by SCE will require that the power lines in front of the property along Monroe will be installed underground; the site will connect to the existing natural gas line in Washington Avenue. This portion of Murrieta is developed but it includes this 14.4-acre undeveloped infill site. Therefore, the Project would not have a significant potential to exacerbate wildfire risk or to result in temporary or ongoing impacts to the environment. Impacts under this issue are considered less than significant.

d. *Less Than Significant Impact* – The discussion under Section VII, Geology and Soils, concluded that the Project would not have a significant potential to experience landslides or slope instability. Once constructed, the project site will remain essentially flat, and the drainage will be managed in an efficient manner that would not expose people or structures to significant risk. Furthermore, as discussed under Section X, Hydrology and Water Quality, the Project is not located in an area containing a flood hazard, and the project site is anticipated to remain stable should a wildfire occur at or near the project site. As discussed above, the Project is not anticipated to be exposed to substantial wildfire risk because of the lack of fuel to spread wildfire surrounding the site. Therefore, the development of the Washington/Nutmeg Multifamily Development Project at this site is anticipated to have a less than significant potential to 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. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XXI. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

SUBSTANTIATION

The analysis in this Initial Study and the findings reached indicate that the proposed Project may result in one unavoidable significant adverse impact to the existing environment, but the proposed Project can be implemented without causing any other new project specific or cumulatively considerable unavoidable significant adverse environmental impacts. Mitigation is required to control potential environmental impacts of many environment issues, other than potential impacts to scenic vistas from adjacent private residences to the Santa Rosa Plateau, to a less than significant impact level. The potential impacts to scenic vistas will be evaluated in a "Focused" Environmental Impact Report (EIR). The following findings are based on the detailed analysis in the Initial Study of all environmental topics and the implementation of the mitigation measures identified in the previous text and summarized following this section.

a. *Less Than Significant With Mitigation Incorporated* – The Project has no potential to cause a significant impact to any biological or cultural resources. The Project has been identified as having no potential to substantially degrade the quality of the natural environment, substantially reduce 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, or reduce the number or restrict the range of a rare or endangered plant or animal. The Project requires mitigation to prevent significant biology impacts from occurring as a result of implementation of the Project. Based on the historic disturbance of the site, and its current disturbed condition, the potential for impacting cultural resources is low. The Cultural Resources Report determined that no cultural resources of importance were found on the ground surface at the project site, so it is not anticipated that any cultural resources could be affected by the Project because no known cultural resources exist. However, because it is not known what could be unearthed upon any excavation activities, contingency mitigation is provided to ensure that, in the unlikely event that any buried resources are found, they are protected from any potential significant impacts. Please see biological and cultural sections of this Initial Study.

b. *Less Than Significant With Mitigation Incorporated* – The Project has 12 potential impact categories that are individually limited, but may be cumulatively considerable. These are: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology & Soils, Hazards & Hazardous Materials,

Hydrology & Water Quality, Noise, Transportation, Tribal Cultural Resources, Utilities & Service Systems, and Wildfire. The Project is not considered growth-inducing, as defined by *State CEQA Guidelines*. These referenced issues require the implementation of mitigation measures to reduce impacts to a less than significant level and ensure that cumulative effects are not cumulatively considerable. All other environmental issues were found to have no potential significant impacts without implementation of mitigation. The potential cumulative environmental effects of implementing the proposed Project have been determined to be less than considerable and thus, less than significant impacts.

c. *Potentially Significant impact* – The proposed Project includes activities that have a potential to cause direct substantial adverse effects on humans. Based on input from adjacent residents and preliminary visual simulations, the proposed Project will modify scenic vistas to the Santa Rosa Plateau (west) from some of the adjacent single-family residences. This single issue will be evaluated in a Focused EIR. The issues of Air Quality, Geology and Soils, Hazards & Hazardous Materials, hydrology and Water Quality, Noise, and Wildfire require the implementation of mitigation measures to reduce human impacts to a less than significant level. All other environmental issues were found to have no significant impacts on humans without implementation of mitigation. The potential for direct human effects from implementing the proposed Project have been determined to be a potentially significant impact based on the proposed Project's impact to scenic vistas of adjacent residents.

Conclusion

This document evaluated all CEQA issues contained in the latest Initial Study Checklist form. With the exception of potential impacts to scenic vistas, the evaluation determined that either no impact or less than significant impacts would be associated with the issues of Agriculture and Forestry Resources, Energy, Greenhouse Gases, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, and Recreation. The issues of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology & Soils, Hazards & Hazardous Materials, Hydrology & Water Quality, Noise, Transportation, Tribal Cultural Resources, Utilities & Service Systems, and Wildfire require the implementation of mitigation measures to reduce Project specific and cumulative impacts to a less than significant level. The required mitigation has been proposed in this Initial Study to reduce impacts for these issues to a less than significant impact level.

Based on the evidence and findings in this Initial Study, the City of Murrieta proposes to issue a Notice of Preparation (NOP) for the Washington/Nutmeg Multifamily Development Project. The NOP serves as the City's formal determination that a Focused EIR will be prepared for this project and circulated for public review after the 30-day NOP public comment period. The Initial Study and NOP will be circulated for 30 days of public comment. At any time after the 30-day NOP review period, a draft Focused EIR can be published and made available for a 45-day review period. All comments on the NOP will be considered and addressed prior to release of the Draft Focused EIR.

———————

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.

Revised 2019
Authority: Public Resources Code sections 21083 and 21083.09
Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

SUMMARY OF MITIGATION MEASURES

Air Quality

AQ-1 During the site preparation phase, construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall ensure that off-road diesel construction equipment that complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.

AQ-2 During site preparation and grading activity all actively graded areas within the Project site shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12% is maintained for actively graded areas. Moisture content can be verified with use of a moisture probe by the grading contractor.

Biological Resources

BIO-1 Bird nesting season generally extends from February 1 through September 15 in southern California and specifically, April 15 through August 31 for migratory passerine birds. To avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist shall conduct pre-construction nesting bird survey prior to project-related disturbance to identify any active nests. If no active nests are found, no further action would be required. If an active nest is found, the biologist shall set appropriate no-work buffers around the nest which would be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

Cultural Resources

CUL-1 Should any subsurface or other cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the City's onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

Geology and Soils

GEO-1 Based upon the geotechnical investigation (Appendix 5 of this document), all of the recommended seismic design parameters identified in Appendix 5 (beginning on page 5) shall be implemented by the Applicant. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including seismic soil stability on future project-related structures.

GEO-2 Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. If covering is not feasible, then measures such as the use of straw bales or sandbags shall be used to capture and hold eroded material on the Project site for future cleanup.

GEO-3 All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the site within which the Washington/Nutmeg Multifamily Development is being constructed.

GEO-4 Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

Hazards and Hazardous Materials

HAZ-1 All spills or leakage of petroleum products (or other hazardous materials) during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility. This measure will be incorporated into the SWPPP prepared for the Project development.

Hydrology and Water Quality

HYD-1 The project proponent will select best management practices from the range of practices identified by the City and reduce future non-point source pollution in surface water runoff discharges from the site to the maximum extent practicable, both during construction and following development. The Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) shall be submitted to the City for review and approval prior to ground disturbance and the identified BMPs installed in accordance with schedules contained in these documents.

Noise

NOI-1 The construction contractor shall provide a 100-foot buffer zone between adjacent occupied, sensitive residential receiver locations and stationary construction equipment.

NOI-2 Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating Project construction activities shall only occur between the hours of 7:00 a.m. to 8:00 p.m. daily, with no activity allowed on Sundays or holidays (City of Murrieta Municipal Code, Section 16.30.130(A)(2)(a)(1)). The Project construction supervisor shall ensure compliance with the note and the City shall conduct periodic inspection at its discretion.

NOI-3 During all project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

NOI-4 The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the project site during all project construction activities (i.e., to the center).

NOI-5 The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (between the hours of 7:00 a.m. to 8:00 p.m. daily, with no activity allowed on Sundays or holidays). The contractor shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.

NOI-6 Equipment shall be shut off and not left to idle when not in use.

NOI-7 The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.

NOI-8 Large loaded trucks and dozers (greater than or equal to 81,500 pounds) shall not be used within 100 feet of the project boundary near receiver locations R1, R2 and R3 if occupied at the time of Project construction, as shown on Exhibit ES-B. Instead, smaller, rubber-tired bulldozers (less than 81,500 pounds) shall be used within this area during Project construction to reduce vibration effects. If all mobile equipment used during Project construction are less than 81,500 this mitigation measure does not need to be implemented.

NOI-9 The first-floor interior noise level analysis shows that the City of Murrieta 45 dBA CNEL residential interior noise level can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27. The developer shall install windows and sliding glass doors on the first-floor of all units.

Transportation

TRAN-1 Prior to the issuance of building permits, the Project Applicant shall participate in the City's Development Impact Fee (DIF) program and the County's Transportation Uniform Mitigation Fee (TUMF) program by paying the requisite DIF and TUMF fees.

Tribal Cultural Resources

TCR-1 The project permittee/owner shall retain a Riverside County-certified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown cultural resources. Prior to grading, the project permittee/owner shall provide to the City verification that a certified archaeological monitor has been retained. Any newly discovered cultural resource deposits shall be subject to a cultural resources evaluation.

TCR-2 Archaeological Monitoring: At least 30-days prior to grading permit issuance and before any grading, excavation, and/or ground-disturbing activities on the site take place, the project permittee/owner shall retain a Riverside County-certified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources.

1. The Project Archaeologist, in consultation with consulting tribes, the permittee/owner, and the City, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include:

    a. Project grading and development scheduling;

    b. The development of a schedule in coordination with the permittee/owner and the Project Archeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation and ground-disturbing activities on the site: including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all project archaeologists; and,

    c. The protocols and stipulations that the permittee/owner, City, tribes, and Project Archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

2. A final report documenting the monitoring activity and disposition of any recovered cultural resources shall be submitted to the City of Murrieta, Eastern Information Center and the consulting tribe within 60 days of completion of monitoring.

TCR-3 Native American Monitoring: Native American Tribal monitors shall also participate in monitoring of ground-disturbing activity. At least 30 days prior to issuance of grading permits, agreements between the permittee/owner and a Native American Monitor shall be developed regarding prehistoric cultural resources and shall identify any monitoring requirements and treatment of Tribal Cultural Resources so as to meet the requirements of CEQA. The monitoring agreement shall address the treatment of known Tribal Cultural Resources; the designation, responsibilities, and participation of professional Native American Tribal monitors during grading, excavation, and ground-disturbing activities; project grading and development scheduling.

TCR-4 Disposition of Cultural Resources: In the event that Native American cultural resources are inadvertently discovered during the course of grading for this project, one or more of the following treatments, in order of preference, shall be employed with the tribes. Evidence of such shall be submitted to the City of Murrieta Planning Department:

1. Preservation-in-place means avoiding the resources, leaving them in the place where they were found with no development affecting the integrity of the resource.

2. On-site reburial of the discovered items as detailed in the Monitoring Plan required pursuant to Mitigation Measure CUL-2. This shall include measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed. No recordation of sacred items is permitted without the written consent of all Consulting Native American Tribal Governments.

3. The permittee/owner shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources, and adhere to the following:

   a. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 Code of Federal Regulations 800 Part 79 and therefore would be curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation; and

   b. At the completion of grading, excavation, and ground disturbing activities on-site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the Project Archaeologist and Native American Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Murrieta, Eastern Information Center and Consulting tribes.

TCR-5 Human remains: If human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision

as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission must be contacted within 24 hours. The Native American Heritage Commission must then immediately identify the "most likely descendants(s)" for purposes of receiving notification of discovery. The most likely descendant(s) shall then make recommendations within 48 hours and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

REFERENCES

CRM TECH, "Historical/Archaeological Resources Survey Report: Tentative Parcel Map Number 30394, Assessor's Parcel Numbers 906-020-012, -013, -091, and -92, City of San Murrieta, Riverside County, California" dated October 3, 2019

DRC Engineering, "Hydrology Study for Nutmeg Apartments" dated March 5, 2020

EEI Engineering Solutions, "Geotechnical Evaluation" dated April 26, 2019

Jacobs Engineering Group, Inc., "Biological Resources Assessment and MSHCP Consistency for the Vesting Tentative Parcel Map 30394 (VTPM 01-194)/ Development Plan (01-195)" dated September 2019

Urban Crossroads, "Tentative Parcel Map No. 30394, Air Quality Impact Analysis, City of Murrieta" prepared dated October 7, 2019.

Urban Crossroads, "Tentative Parcel Map No. 30394, Energy Analysis, City of Murrieta dated October 7, 2019

Urban Crossroads, "Tentative Parcel Map No. 30394, Greenhouse Gas Analysis, City of Murrieta" dated October 7, 2019

Urban Crossroads, "Tentative Parcel Map No. 30394 Noise Impact Analysis, City of Murrieta" dated October 14, 2019.

Urban Crossroads, "Tentative Parcel Map No. 30394 Focused Traffic Impact Analysis City of Murrieta" dated November 27, 2019

Websites

https://www.wmwd.com/DocumentCenter/View/3162/Western_2015-UWMP_Final_Body-Only?bidId=
https://www.wmwd.com/461/Sustainable-Groundwater-Management-Act
https://www.scag.ca.gov/Documents/Murrieta.pdf
http://scagrtpscs.net/Documents/2016/draft/d2016RTPSCS_DemographicsGrowthForecast.pdf
http://www.scag.ca.gov/Documents/5thCyclePFinalRHNAplan.pdf;
https://srrra-jpa.org/64/About-Us

FIGURES

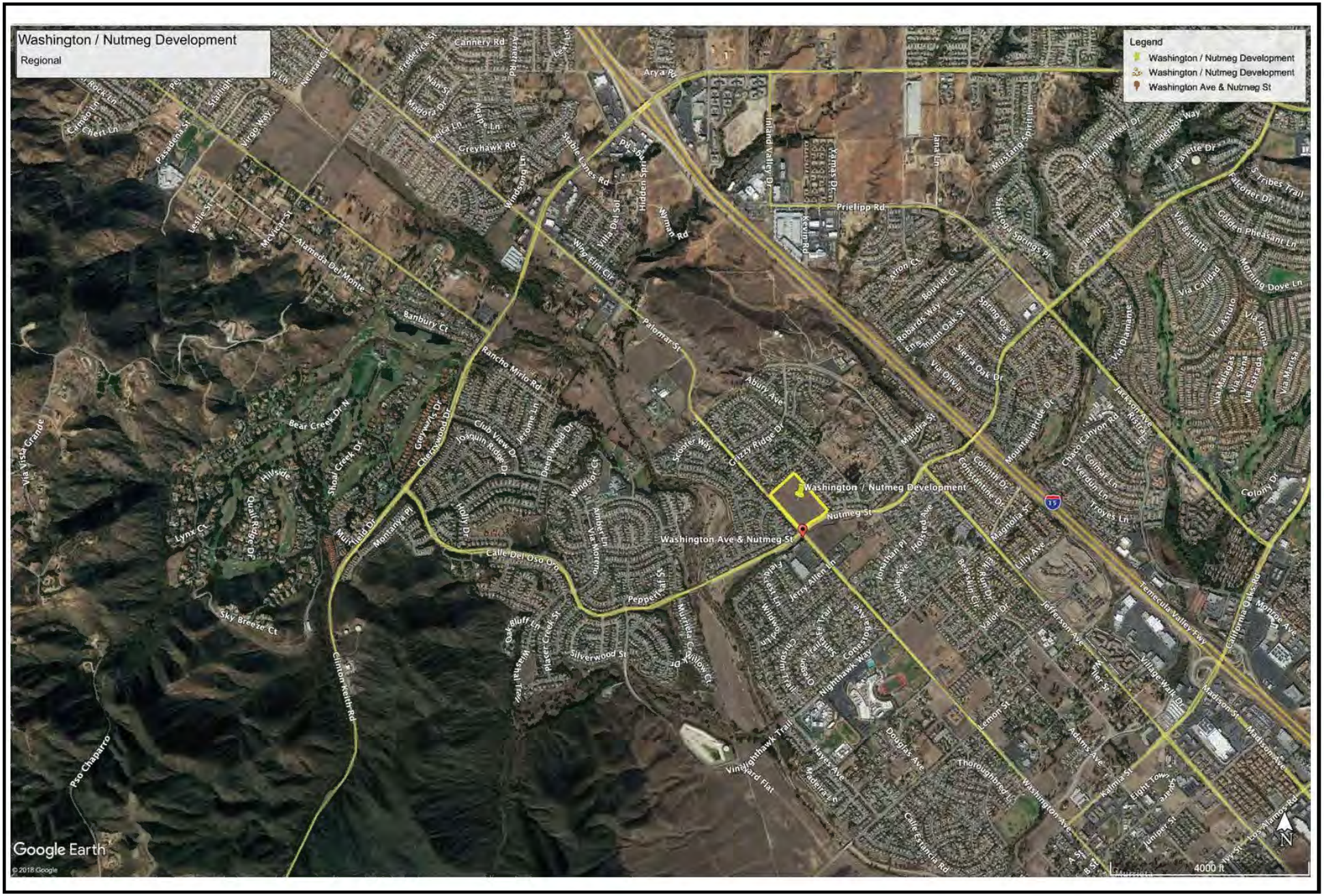


FIGURE 1

Tom Dodson & Associates
Environmental Consultants

Regional Location

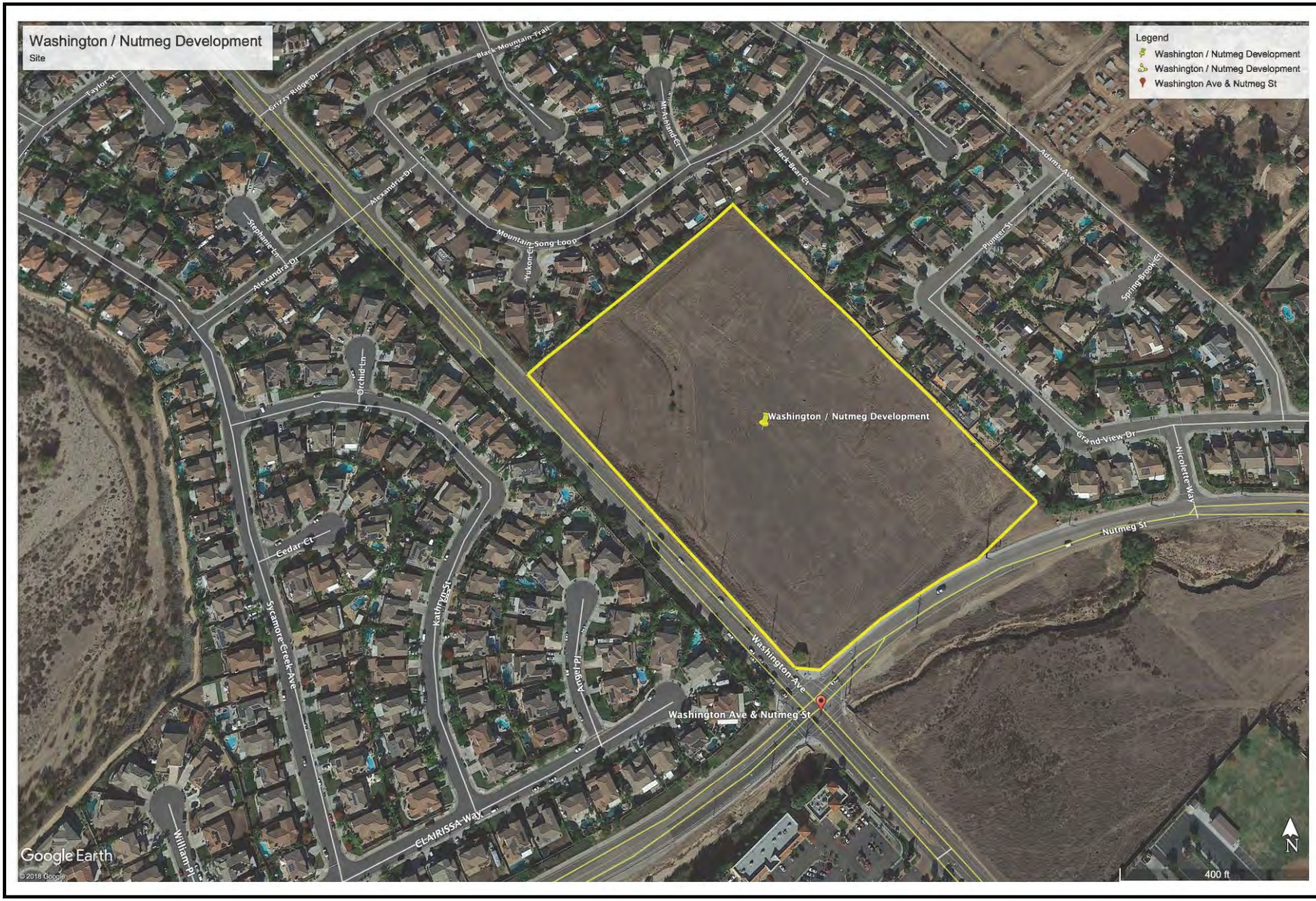


FIGURE 2

Tom Dodson & Associates
Environmental Consultants

Site Location

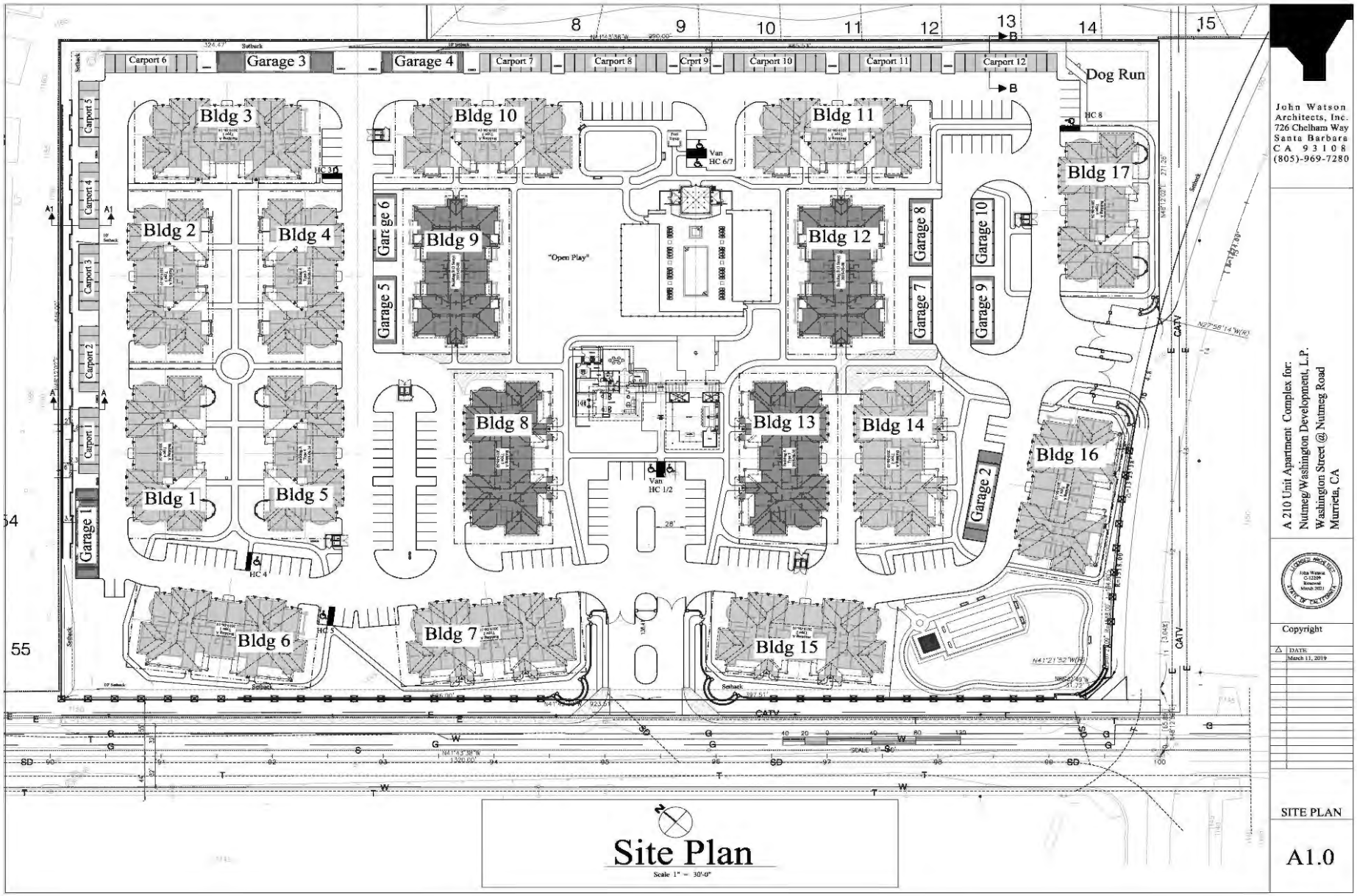
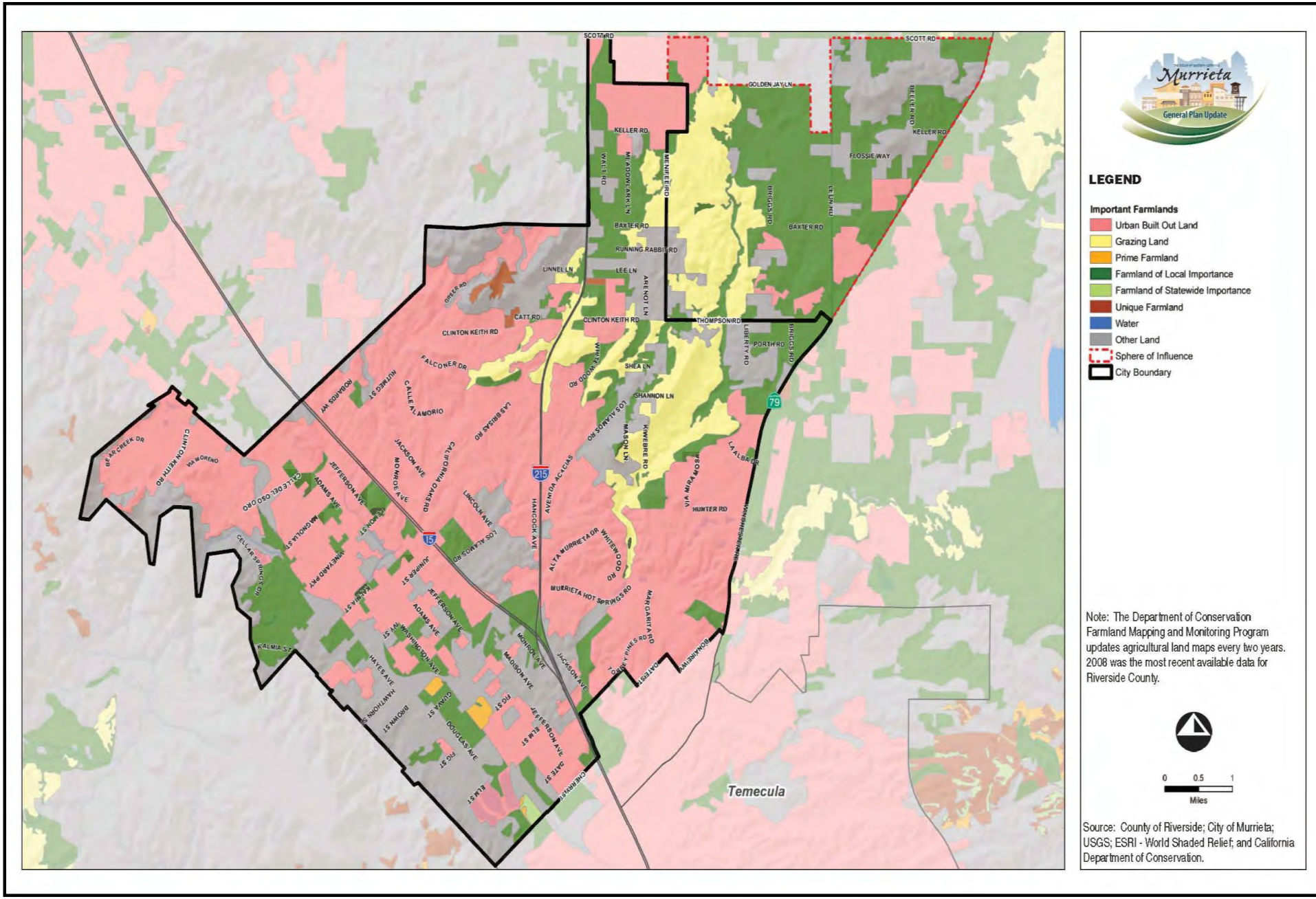


FIGURE 3

Tom Dodson & Associates
Environmental Consultants

Site Plan

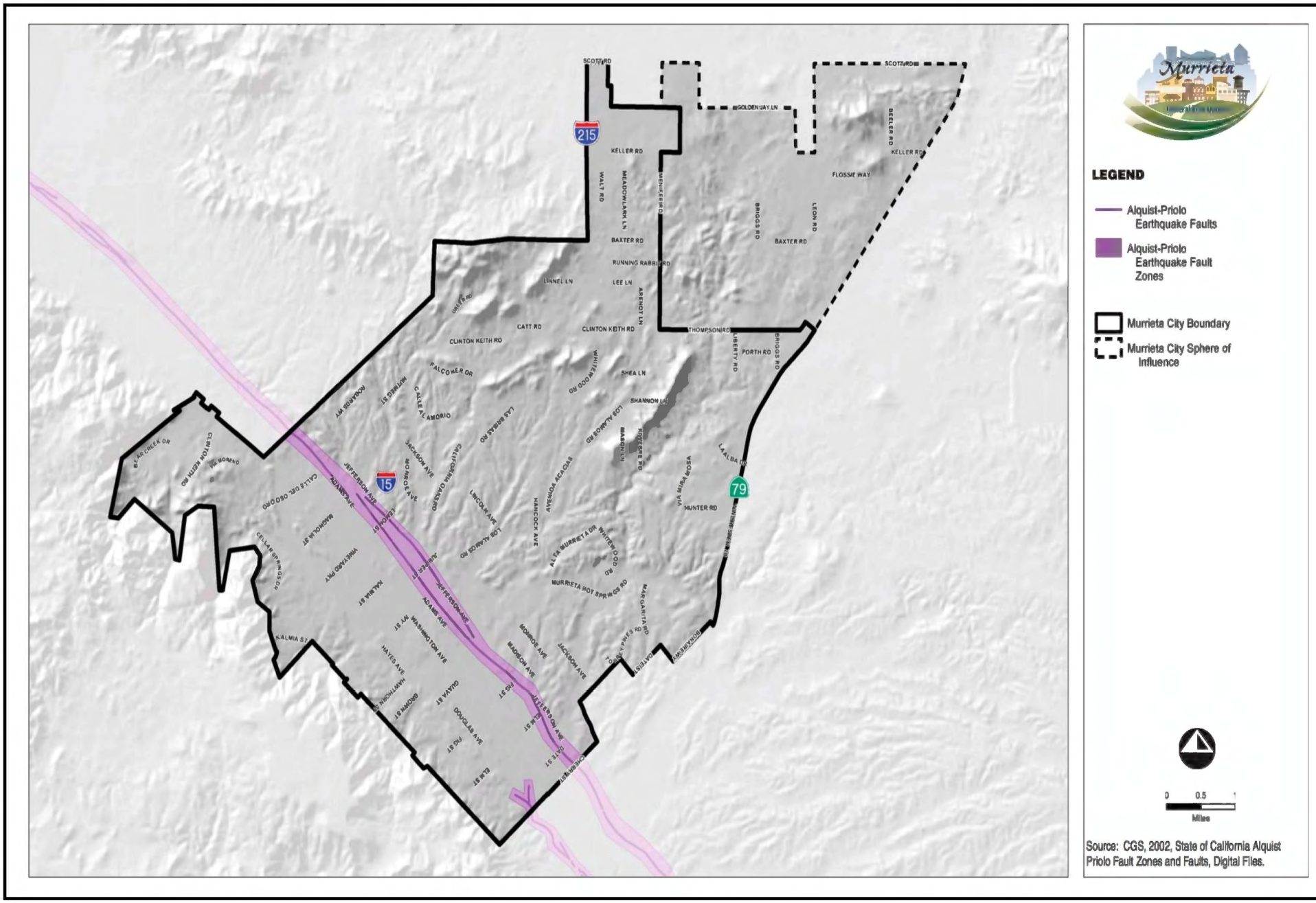


SOURCE: Murrieta General Plan Update EIR, July 2011

FIGURE II-1

Tom Dodson & Associates
Environmental Consultants

Important Farmland (2008)

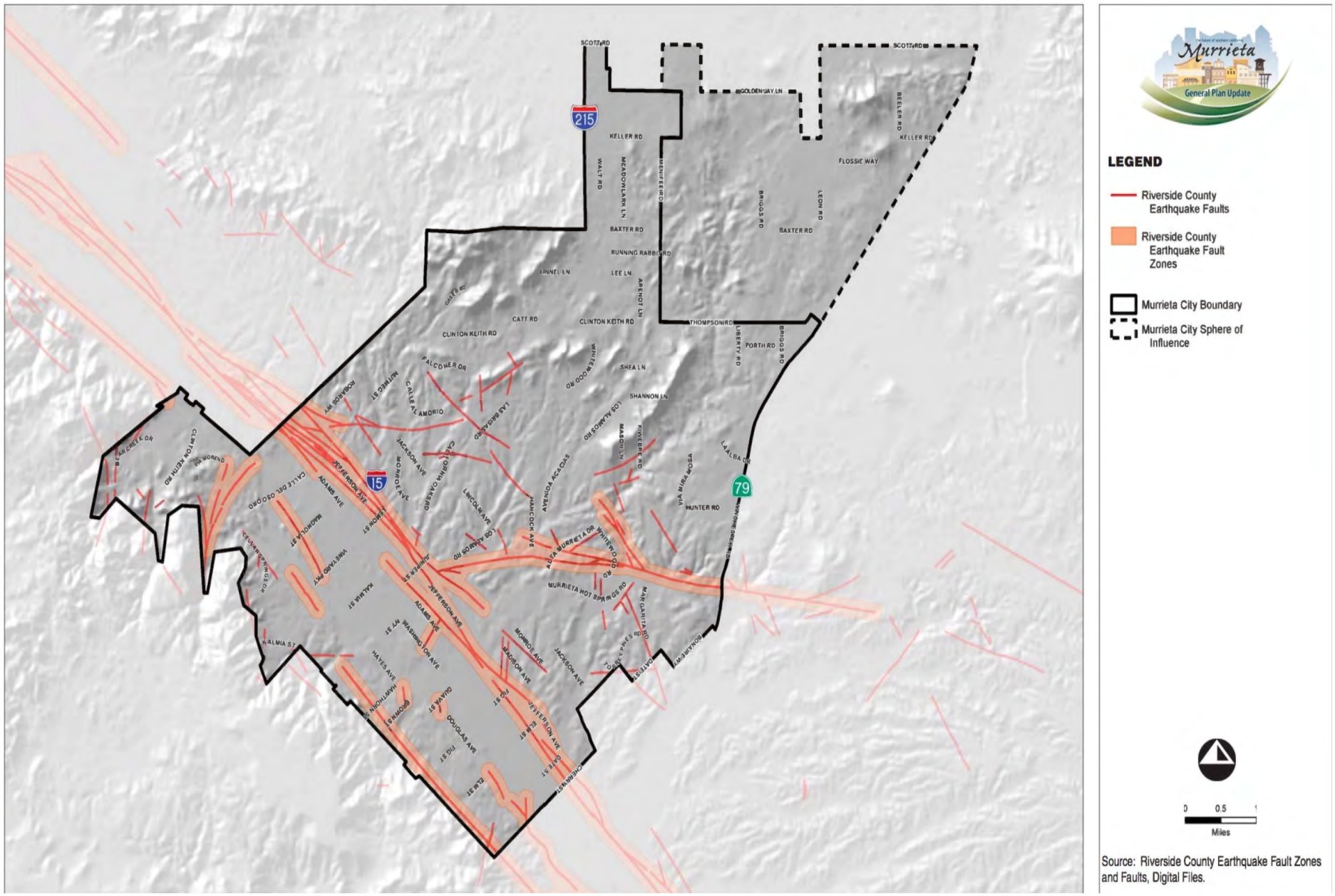


SOURCE: Murrieta General Plan Update EIR, July 2011

FIGURE VII-1

Tom Dodson & Associates
Environmental Consultants

Alquist-Priolo Earthquake Fault Zone Map

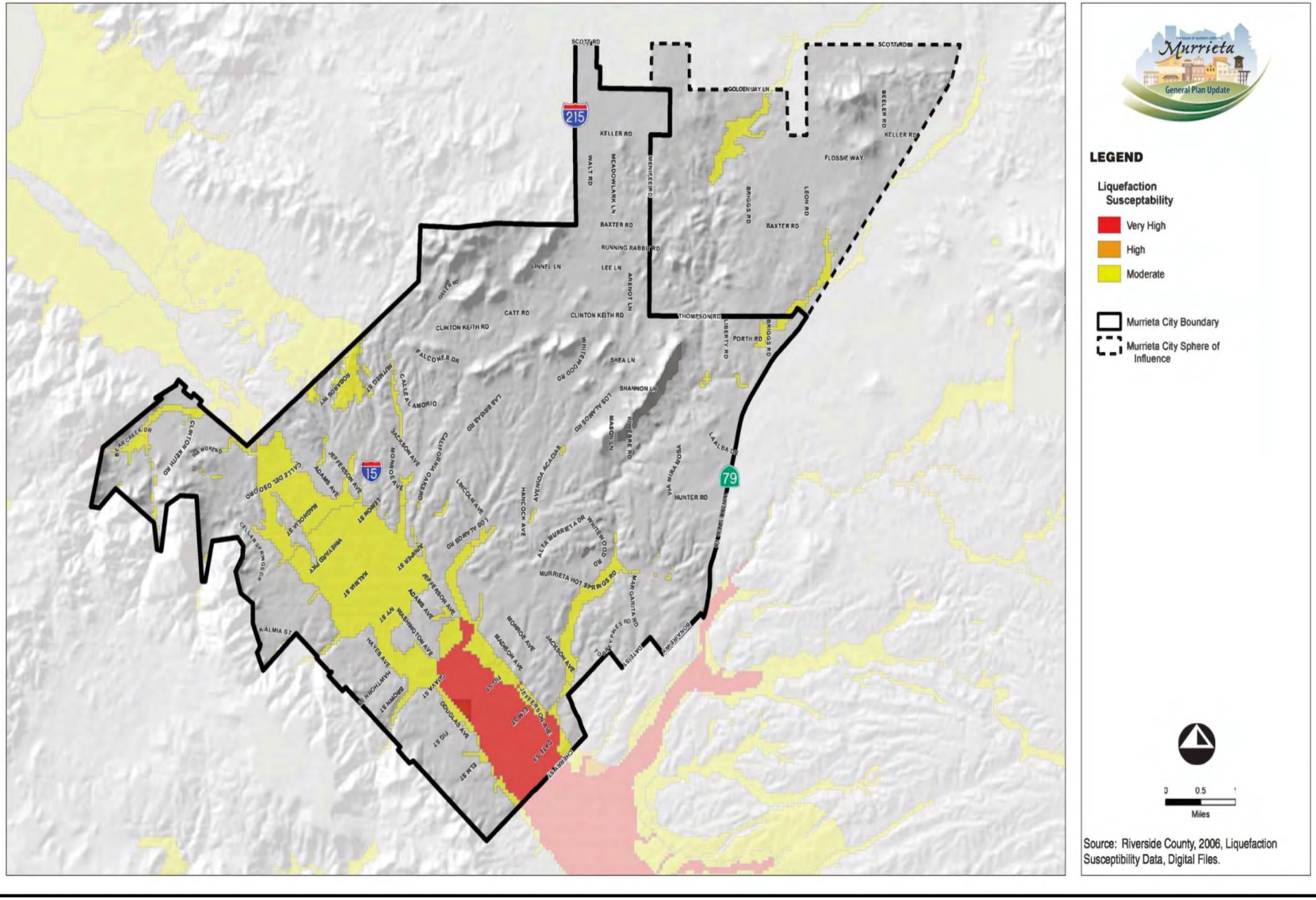


SOURCE: Murrieta General Plan Update, July 2011

FIGURE VII-2

Tom Dodson & Associates
Environmental Consultants

Riverside County Fault Hazard Map

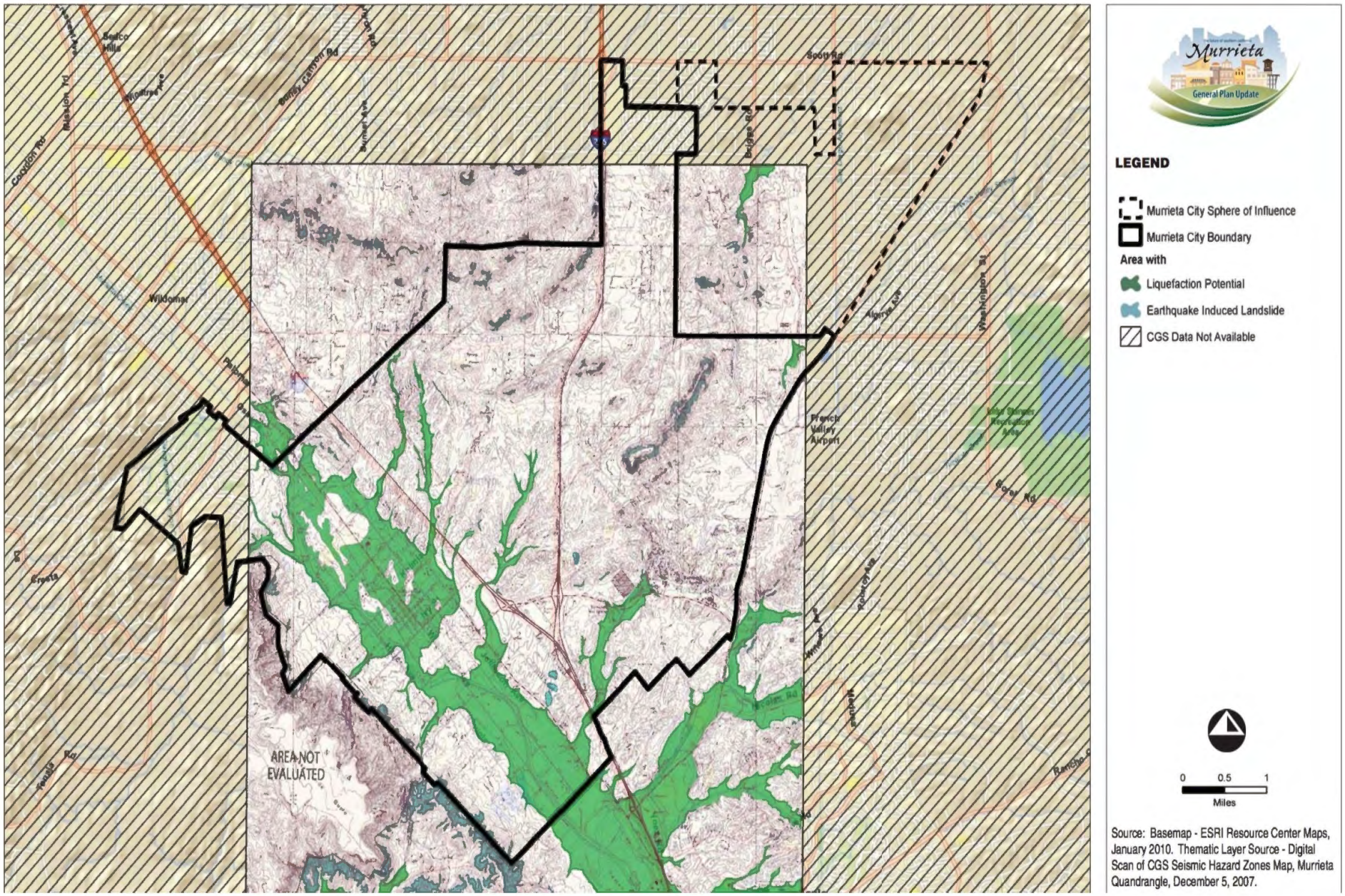


SOURCE: Murrieta General Plan Update, July 2011

FIGURE VII-3

Tom Dodson & Associates
Environmental Consultants

Liquefaction Susceptibility Map



SOURCE: Murrieta General Plan Update, July 2011

FIGURE VII-4

Tom Dodson & Associates
Environmental Consultants

State Seismic Hazard Zones Map

1 District Support Center
41870 McAlby Court, 92562
(951) 696-1600

2 Alta Murrieta Elementary
39475 Whitewood Rd, 92563
951/696-1403 FAX 951/304-1766

3 Antelope Hills Elementary
36105 Murrieta Oaks Ave, 92563
951/445-4110 FAX 951/304-1871

4 Avaxat Elementary
24300 Las Brisas Rd, 92562
951/696-1402 FAX 951/304-1627

5 Buchanan Elementary
40121 Torrey Pines Rd, 92563
951/696-1428 FAX 951/304-1851

6 Cole Canyon Elementary
23750 Via Alisol, 92562
951/696-1421 FAX 951/304-1861

7 Creekside Alternative High
24150 Hayes Ave, 92562
951/696-1409 FAX 951/304-1665

8 Dorothy McElhinney Middle
35125 Briggs Rd, 92563
951/304-1885 FAX 951/304-1889

9 E. Hale Curran Elementary
40855 Chaco Canyon Rd, 92562
951/696-1405 FAX 951/304-1726

10 Lisa J. Mails Elementary
35185 Briggs Rd, 92563
951/304-1880 FAX 951/304-1881

11 Monte Vista Elementary
37420 Via Mira Mosa, 92563
951/894-5085 FAX 951/304-1842

12 Murrieta Elementary
24725 Adams Ave, 92562
951/696-1401 FAX 951/304-1705

13 Murrieta Mesa High
24801 Monroe Ave, 92562
951/304-1890 FAX 951/304-1895

14 Murrieta Valley High
42200 Nighthawk Wy, 92562
951/696-1408 FAX 951/304-1803

15 Rail Ranch Elementary
25030 Via Santee, 92563
951/696-1404 FAX 951/304-1745

16 Shivela Middle
24515 Lincoln Ave, 92562
951/696-1406 FAX 951/304-1642

17 Sykes Elementary
39138 Oakville Ave, 92562
On Hold

18 Thompson Middle
24040 Hayes Ave, 92562
951/696-1410 FAX 951/304-1691

19 Tovashal Elementary
23801 St Raphael, 92562
951/696-1411 FAX 951/304-1782

20 Vista Murrieta High
28251 Clinton Keith Rd, 92563
951/894-5750 FAX 951/304-1832

21 Warm Springs Middle
39245 Calle Fortuna, 92563
951/696-3503 FAX 951/304-1611

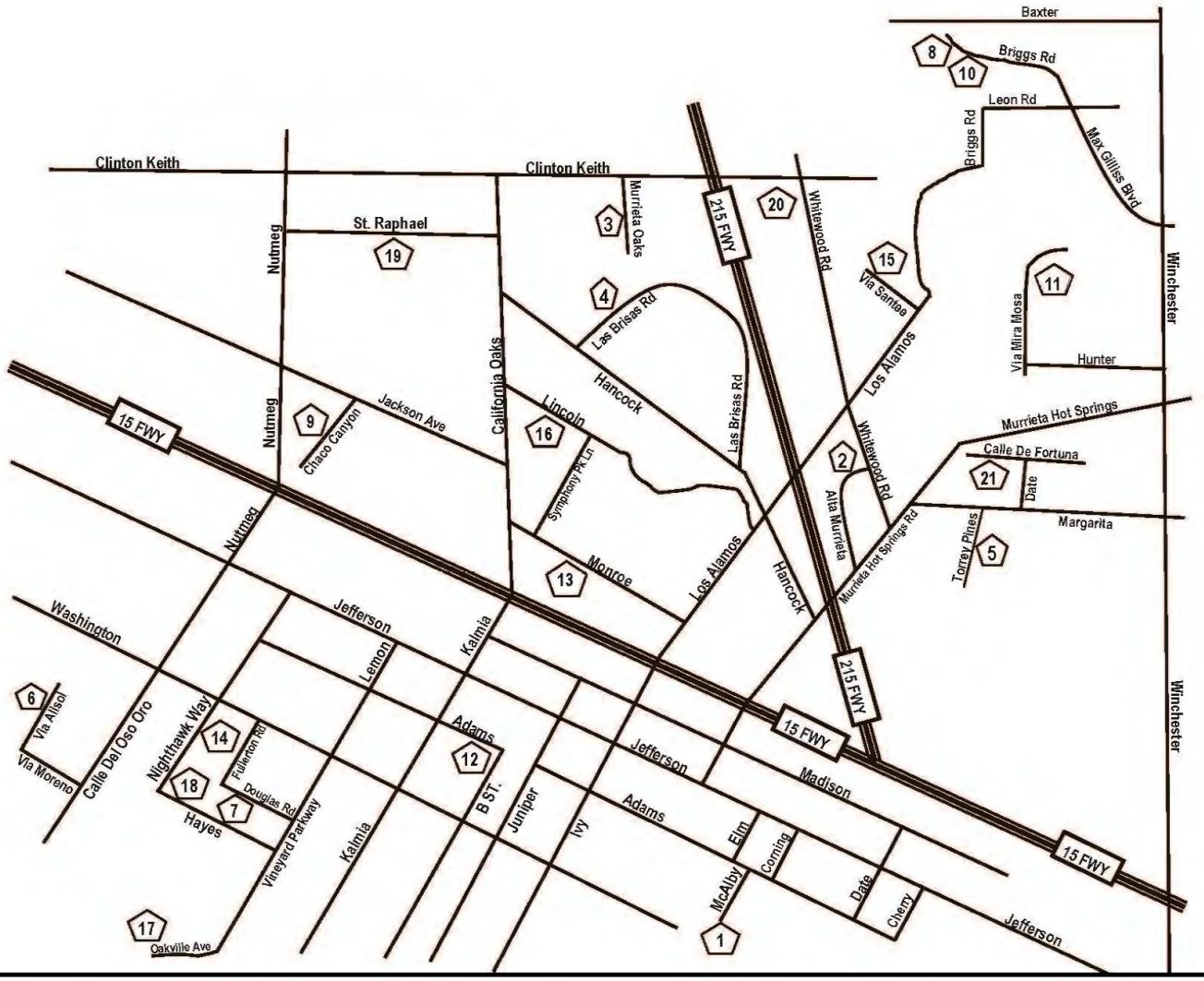


FIGURE IX-1

Tom Dodson & Associates
Environmental Consultants

District Map 2015
(Murrieta USD Boundary Map)

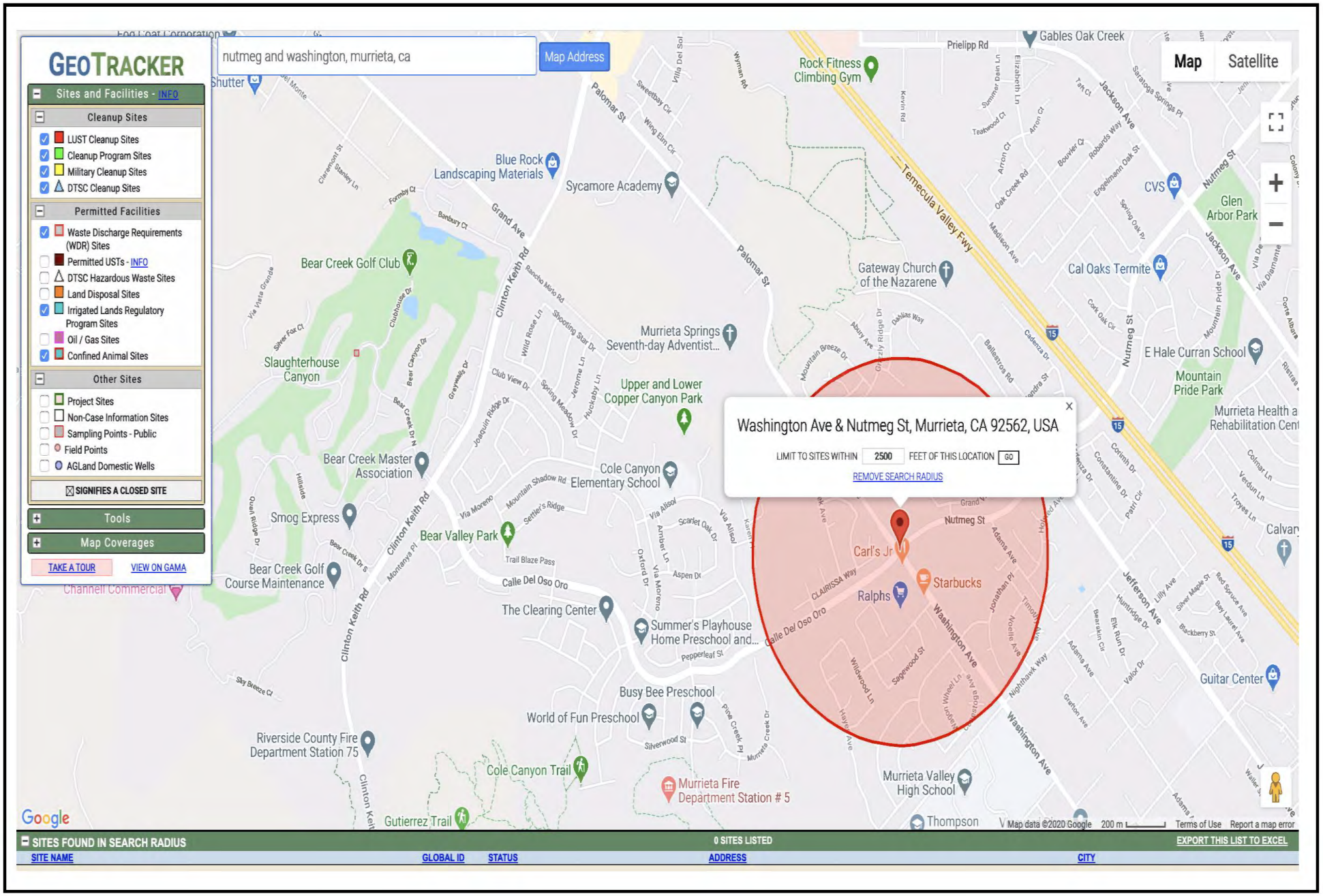


FIGURE IX-2

Tom Dodson & Associates
Environmental Consultants

GeoTracker

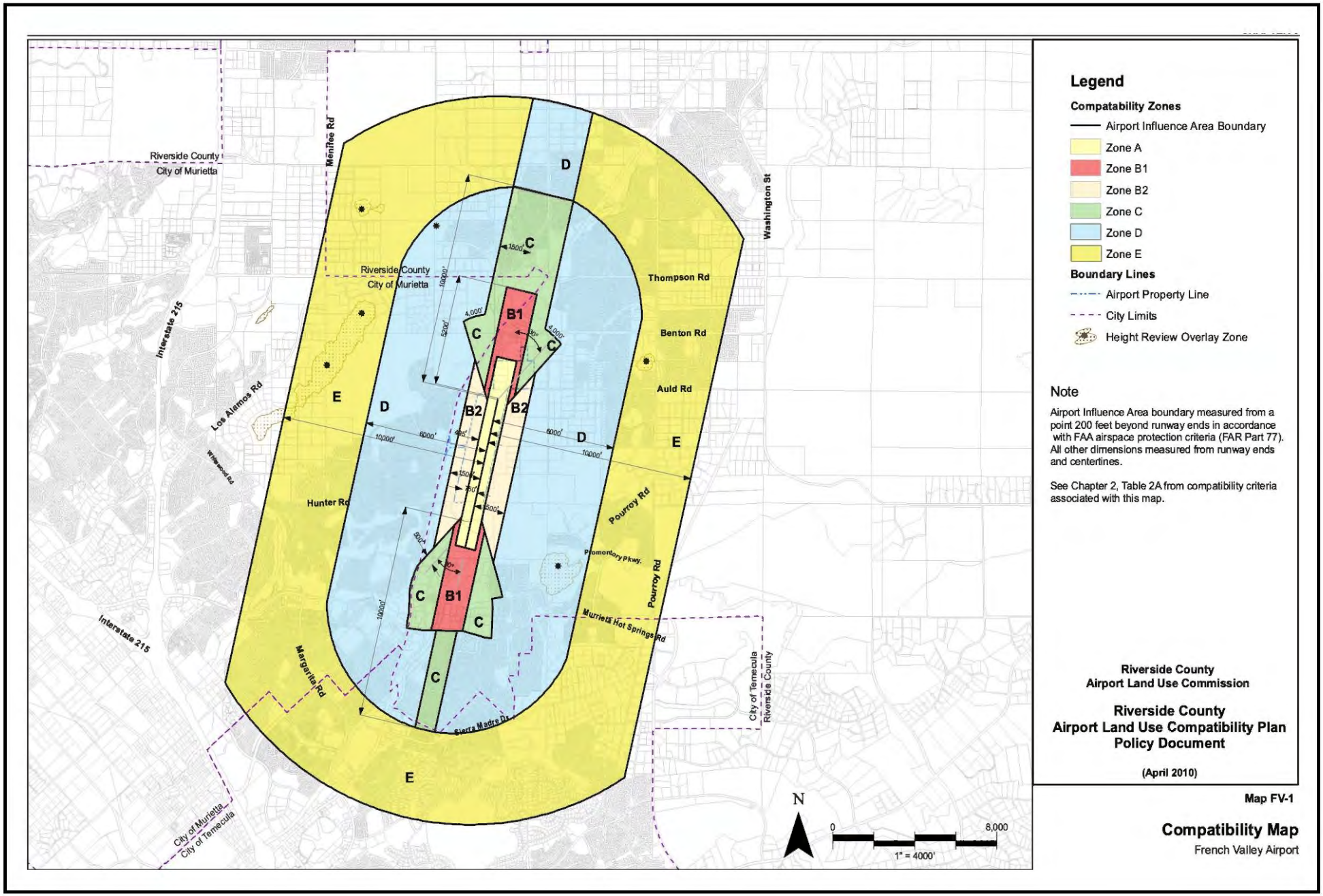
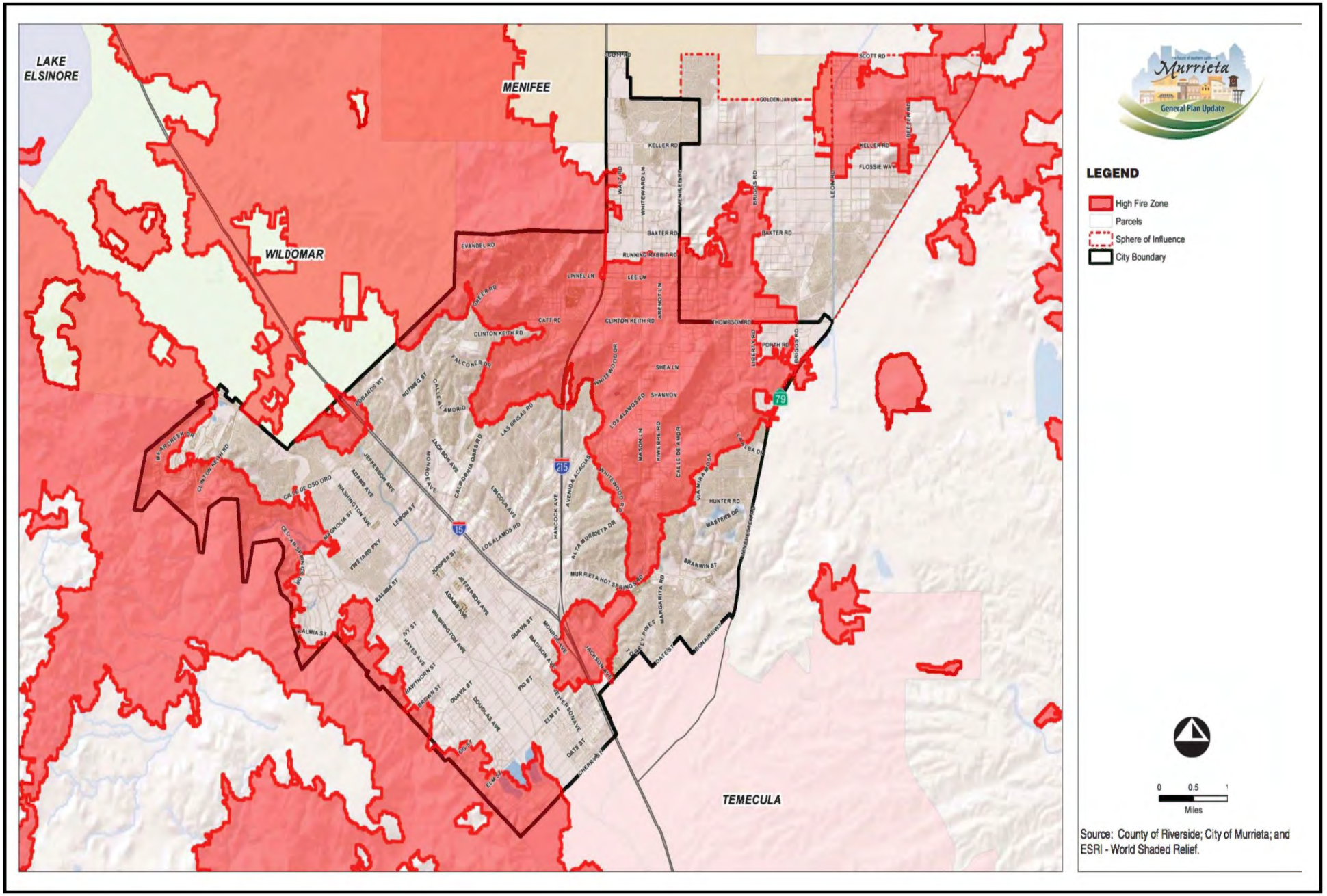


FIGURE IX-3

Tom Dodson & Associates
Environmental Consultants

Airport Compatibility Map (French Valley Airport)



SOURCE: Murrieta General Plan Update EIR, July 2011

FIGURE IX-4

Tom Dodson & Associates
Environmental Consultants

High Fire Hazard Zone Map

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a **scale** of 1:12,000 from photography dated 1994 or later.

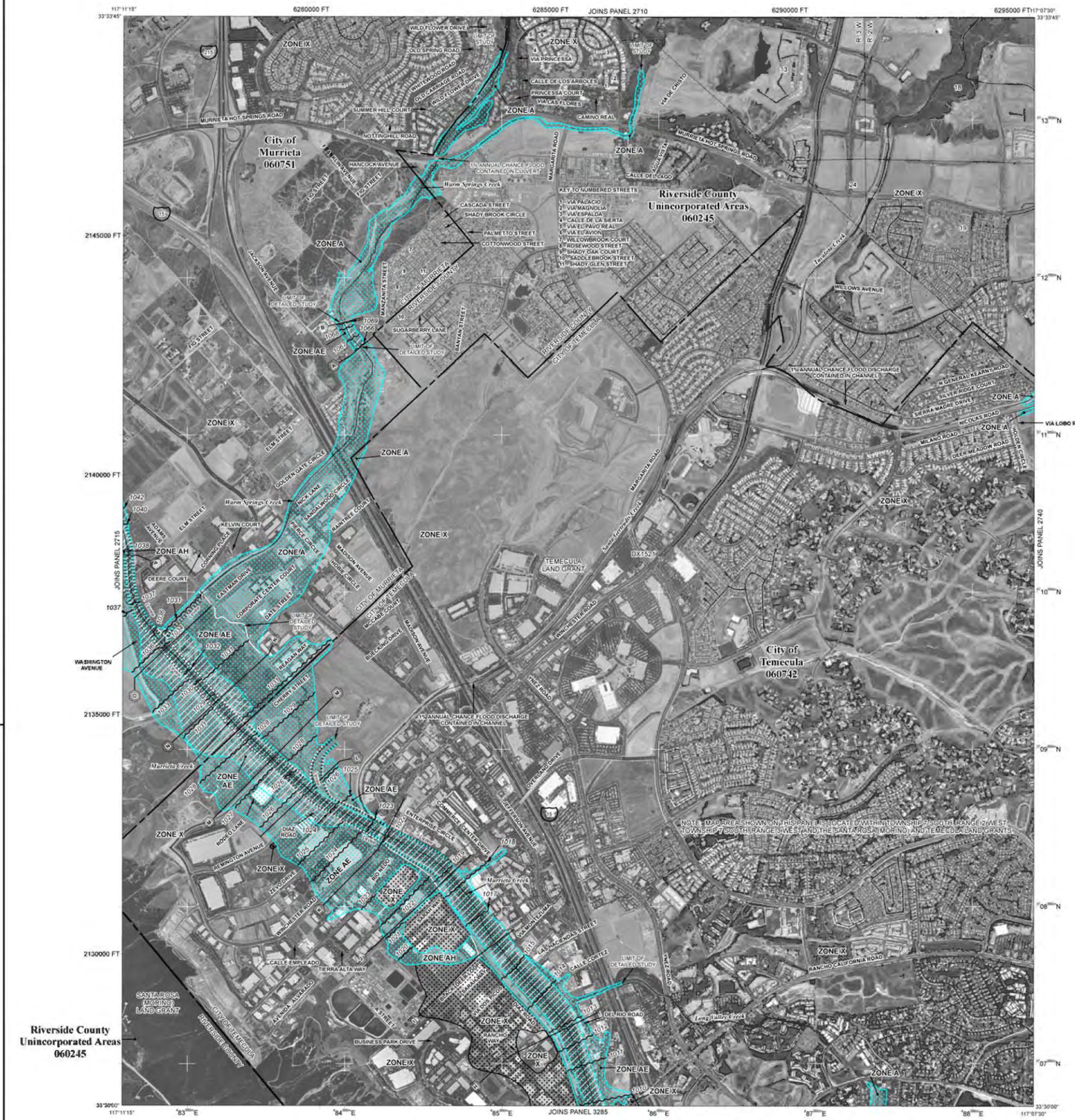
This map may reflect more **detailed** and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 (EL 987) — Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4276000mN — 1000-meter Universal Transverse Mercator grid values, zone 11N
- 600000 FT — 5000-foot grid ticks: California State Plane coordinate system, zone VI (FIPSZONE 0406), Lambert Conformal Conic projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
800 0 1000 2000 FEET
300 0 300 600 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2720G

FIRM
FLOOD INSURANCE RATE MAP

RIVERSIDE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 2720 OF 3805
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
MURRIETA, CITY OF	060751	2720	G
RIVERSIDE COUNTY	060245	2720	G
TEMECULA, CITY OF	060742	2720	G

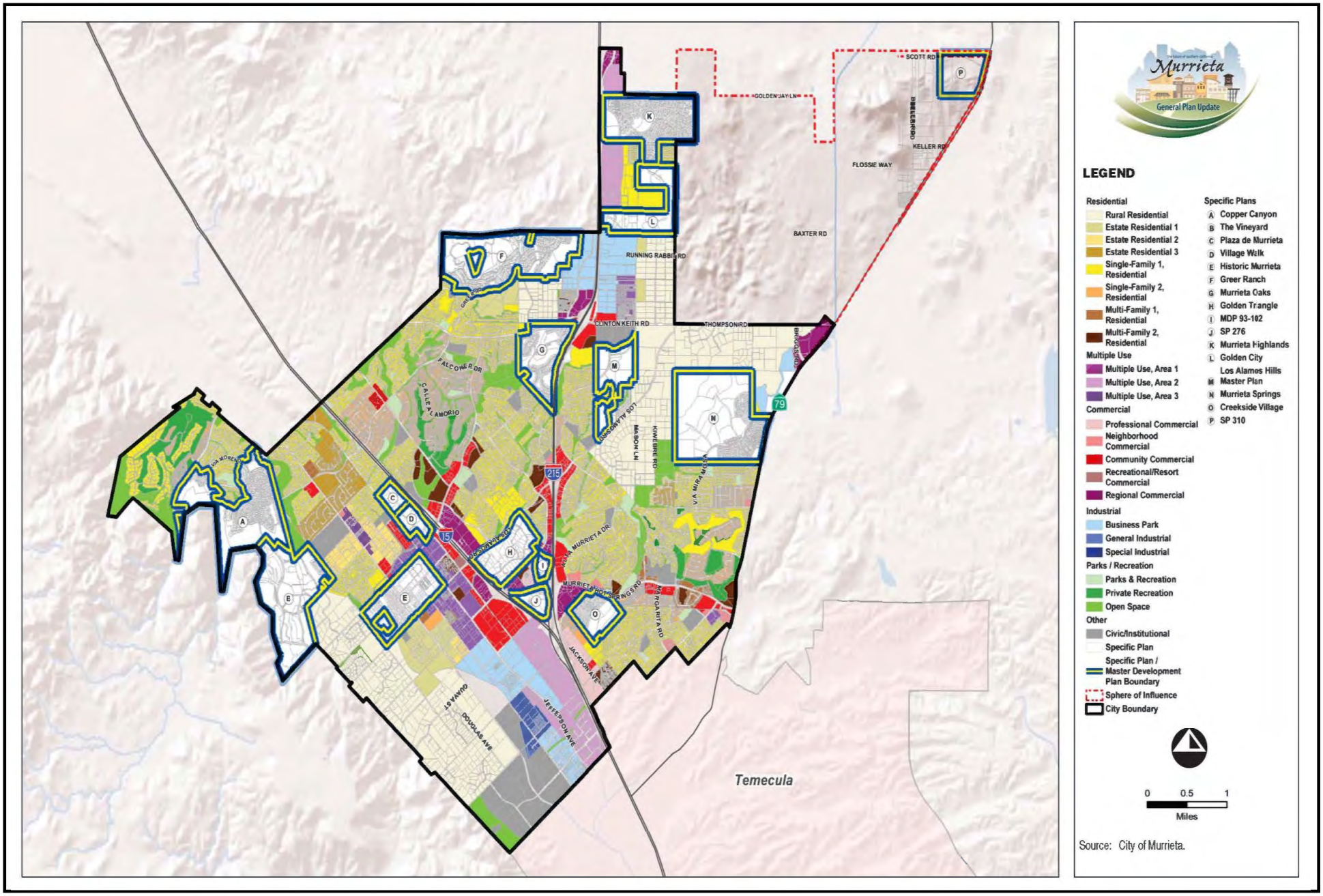
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06065C2720G

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

FIGURE X-1

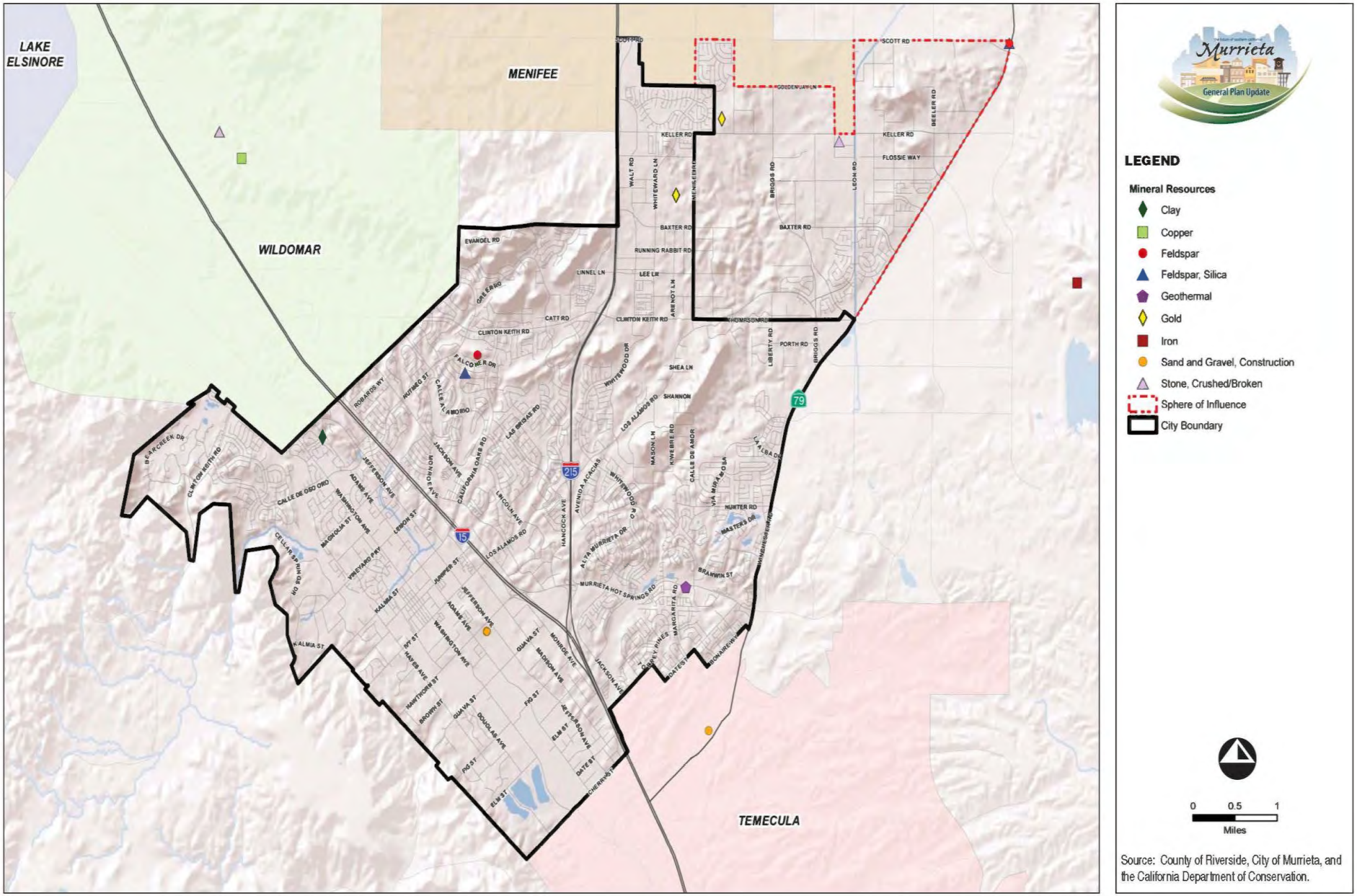


SOURCE: Murrieta General Plan Update EIR, July 2011

FIGURE XI-1

Tom Dodson & Associates
Environmental Consultants

Existing General Plan / Zoning Map



SOURCE: Murrieta General Plan Update EIR, July 2011

FIGURE XII-1

Tom Dodson & Associates
Environmental Consultants

Mineral Resources

SOURCE: Noise Impact Analysis prepared by Urban Crossroads, October 2019

FIGURE XIII-1

Tom Dodson & Associates
Environmental Consultants

Noise Measurement Locations

SOURCE: Noise Impact Analysis prepared by Urban Crossroads, October 2019

FIGURE XIII-2

Tom Dodson & Associates
Environmental Consultants

Receiver Locations

LEGEND:

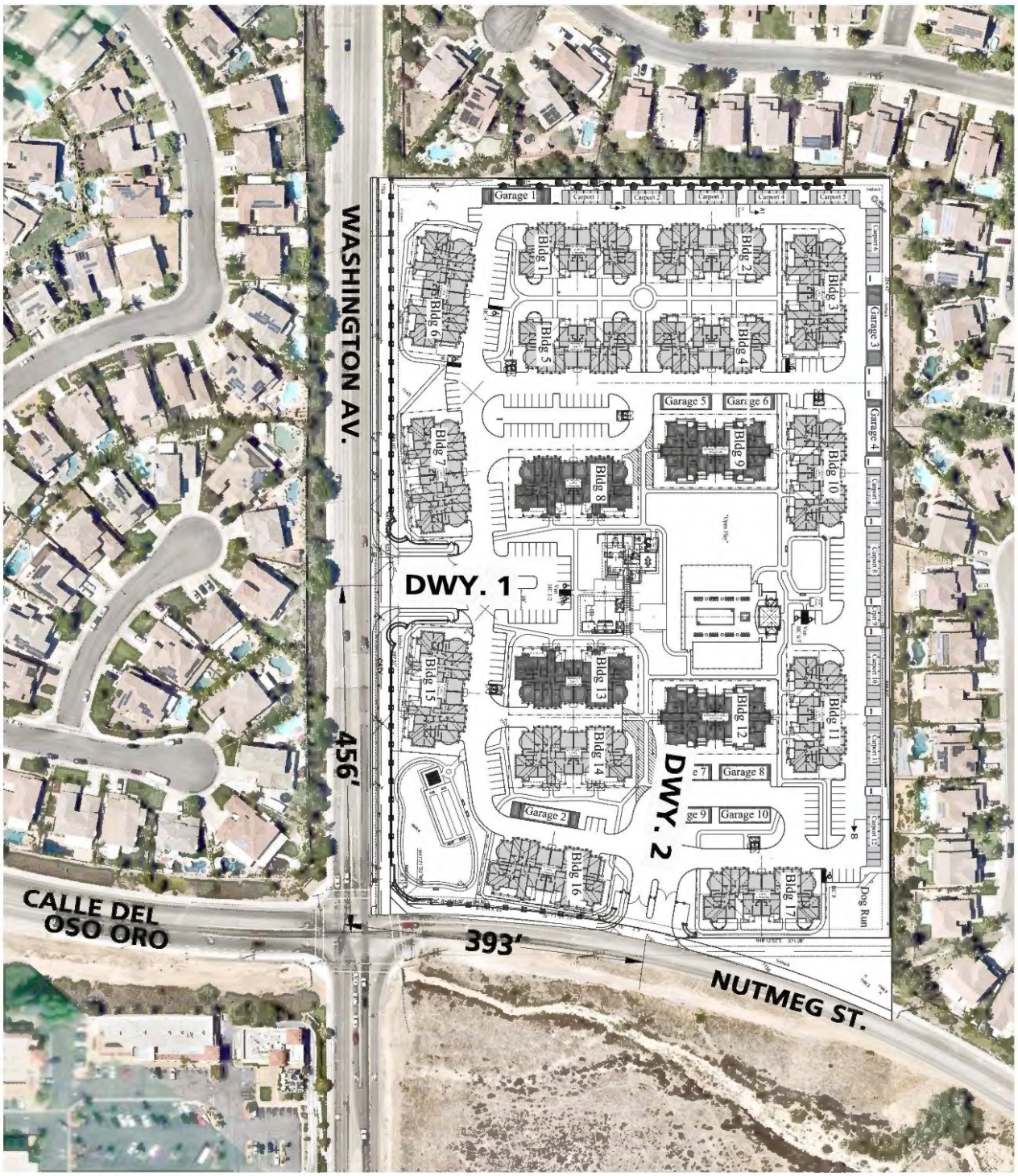
- Receiver Locations
- Construction Activity
- 6' Existing Barrier Height (in feet)
- Distance from receiver to construction activity (in feet)
- Existing Barrier

SOURCE: Noise Impact Analysis prepared by Urban Crossroads, October 2019

FIGURE XIII-3

Tom Dodson & Associates
Environmental Consultants

Construction Activity and Receiver Locations

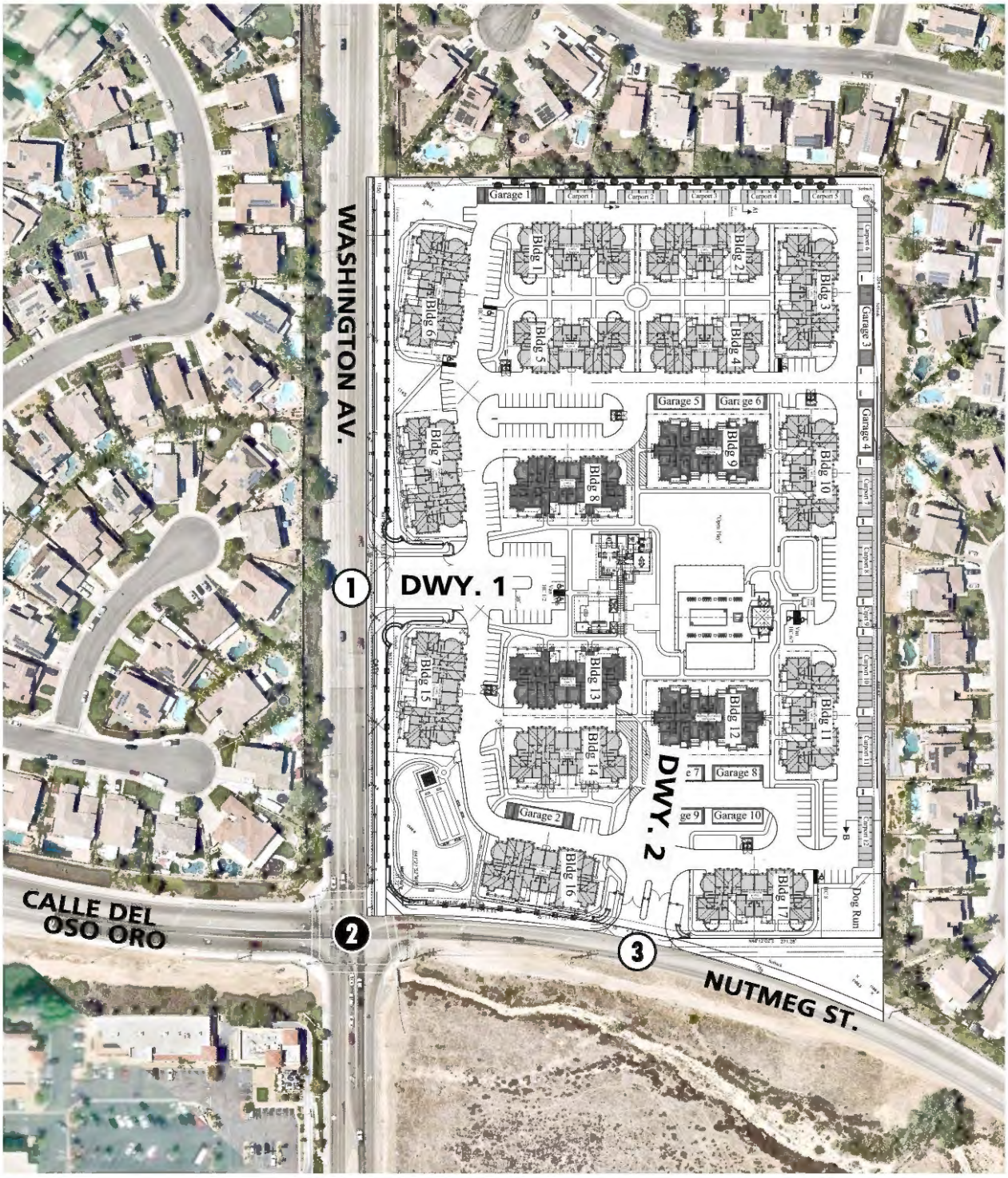


SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-1

Tom Dodson & Associates
Environmental Consultants

Preliminary Site Plan



LEGEND:

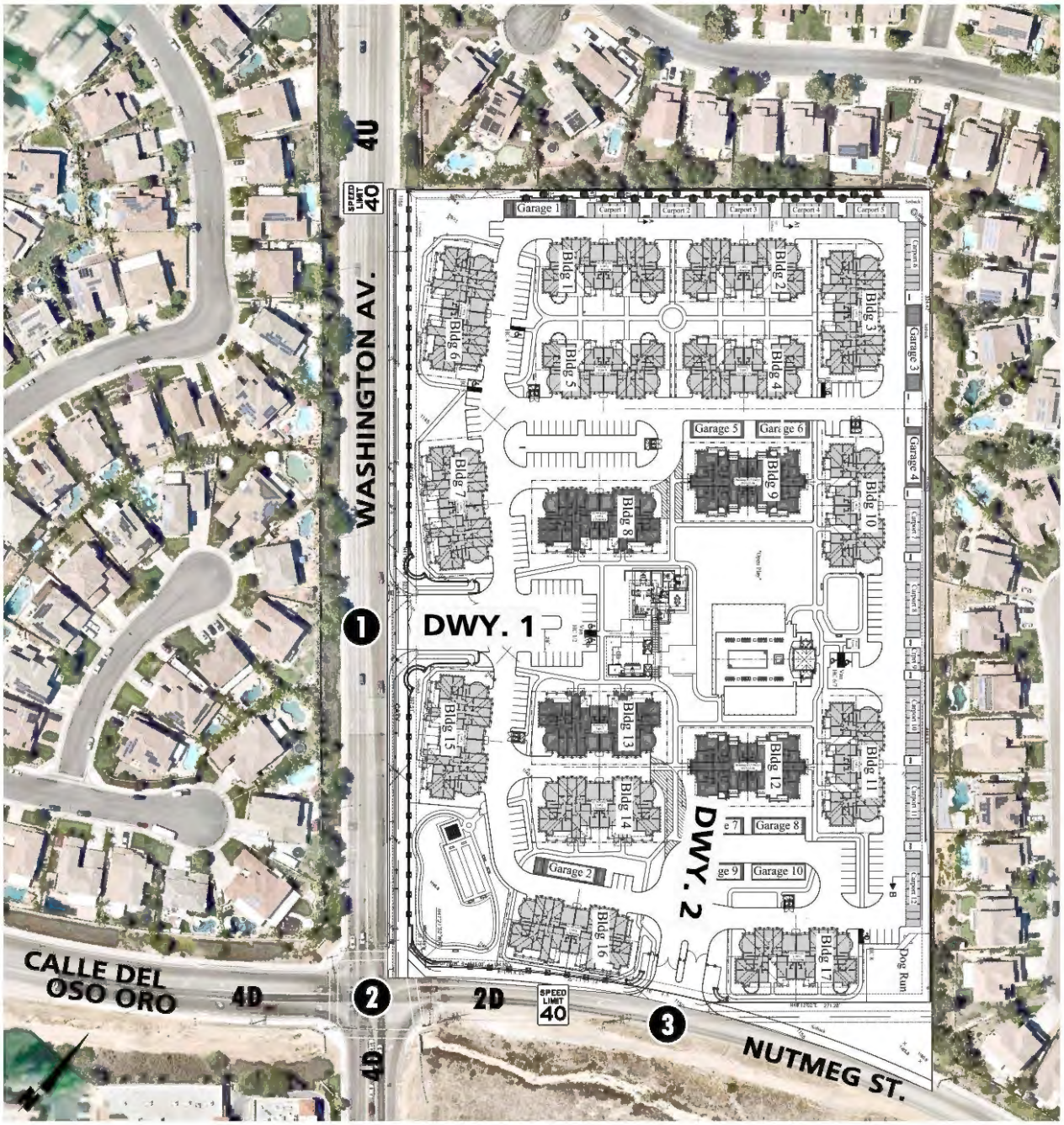
- ⓪ = EXISTING INTERSECTION ANALYSIS LOCATION
- ⓪ = FUTURE INTERSECTION ANALYSIS LOCATION

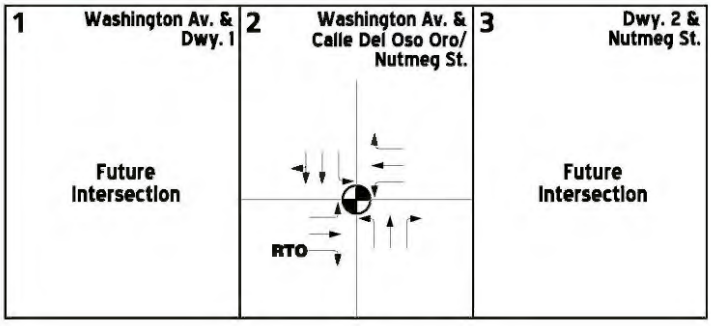
SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-2

Tom Dodson & Associates
Environmental Consultants

Location Map





LEGEND:

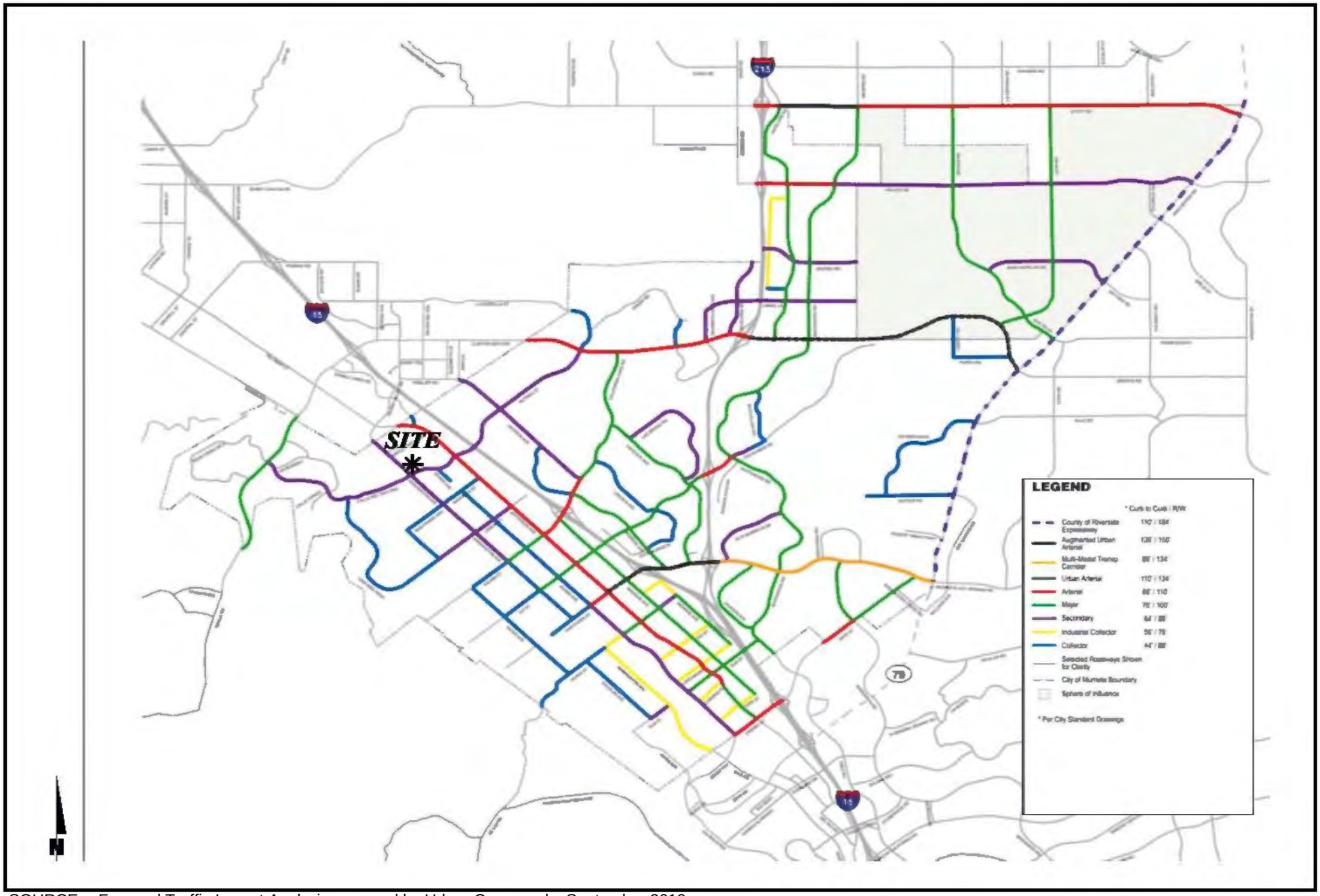
- = TRAFFIC SIGNAL
- 4 = NUMBER OF LANES
- D = DIVIDED
- U = UNDIVIDED
- RTO = RIGHT TURN OVERLAP
- SPEED LIMIT 25 = SPEED LIMIT (MPH)

SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-3

Tom Dodson & Associates
Environmental Consultants

Existing Number of Through Lanes and Intersection Controls



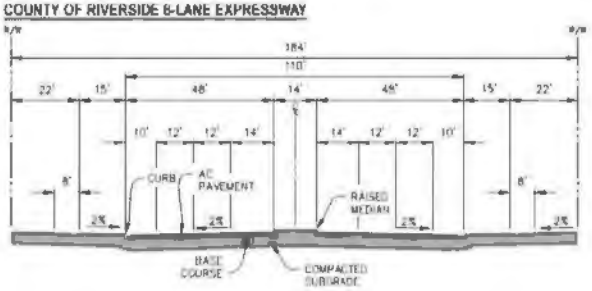
SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-4

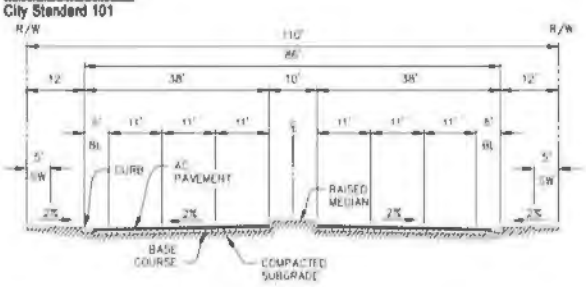
Tom Dodson & Associates
Environmental Consultants

City of Murrieta General Plan Circulation Element

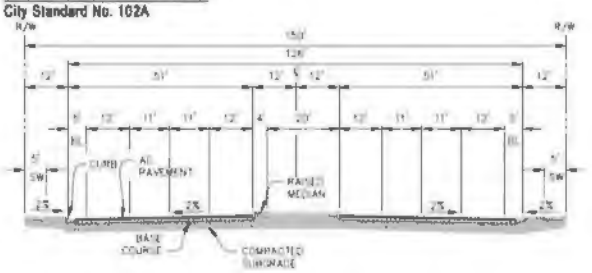
COUNTY OF RIVERSIDE 6-LANE EXPRESSWAY



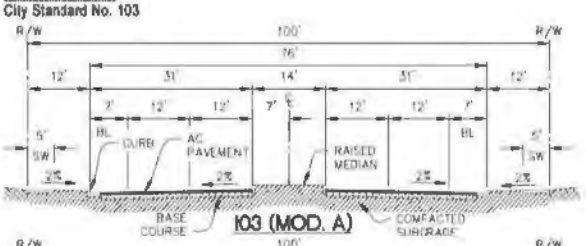
ARTERIAL HIGHWAY
City Standard 101

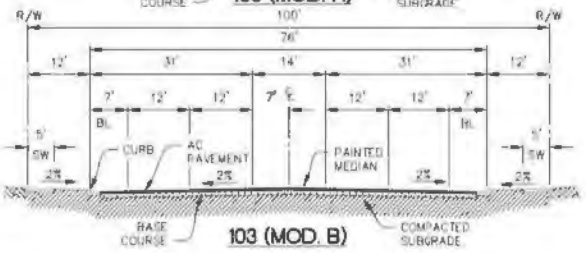


AUGMENTED URBAN ARTERIAL
City Standard No. 102A

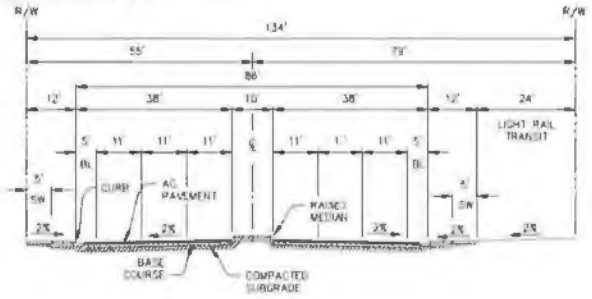


MAJOR HIGHWAY
City Standard No. 103

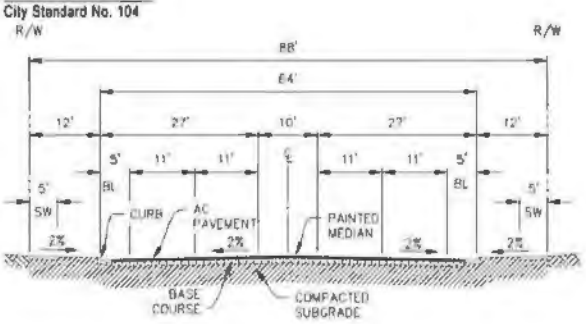




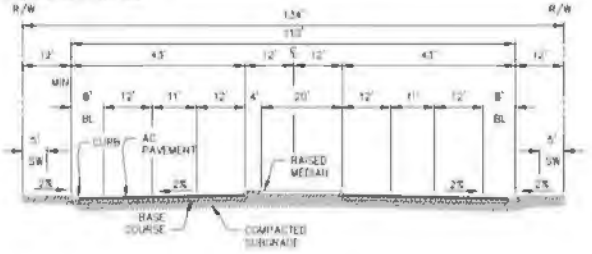
MULTI-MODAL TRANSPORTATION CORRIDOR
City Standard No. 101A



SECONDARY HIGHWAY
City Standard No. 104



URBAN ARTERIAL HIGHWAY
City Standard No. 102



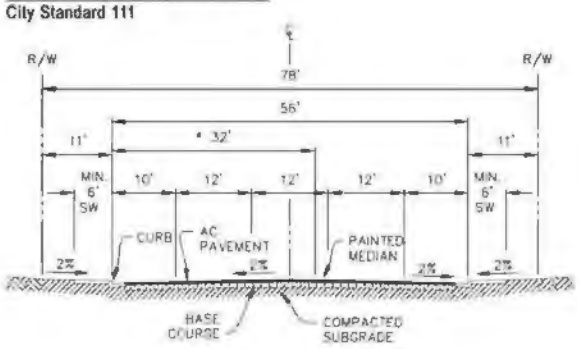
SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-5a

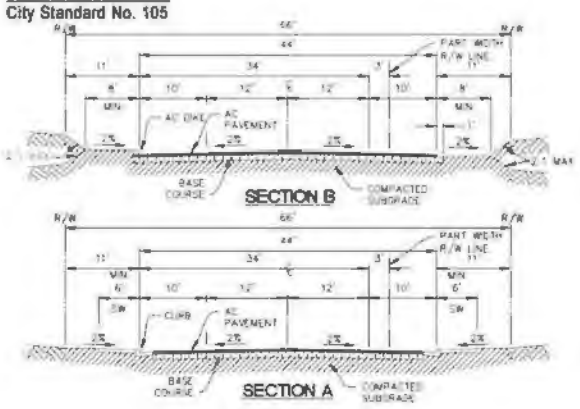
Tom Dodson & Associates
Environmental Consultants

City of Murrieta General Plan
Roadway Cross-Sections

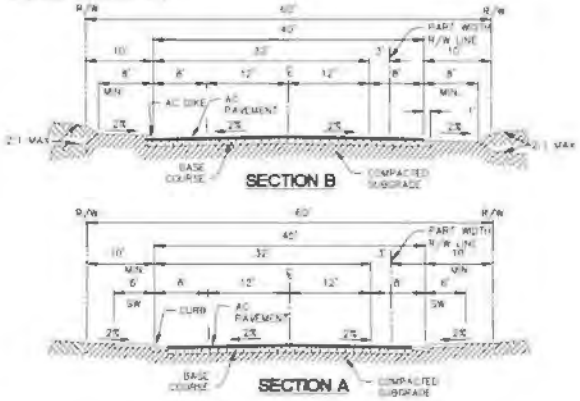
INDUSTRIAL COLLECTOR STREET
City Standard 111



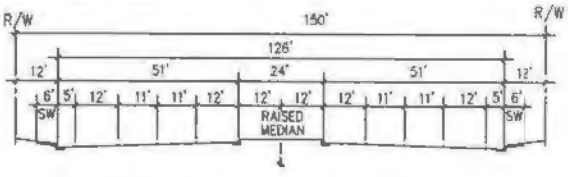
COLLECTOR STREET
City Standard No. 105



LOCAL STREET
City Standard No. 106



COMMERCIAL CORRIDOR DESIGN

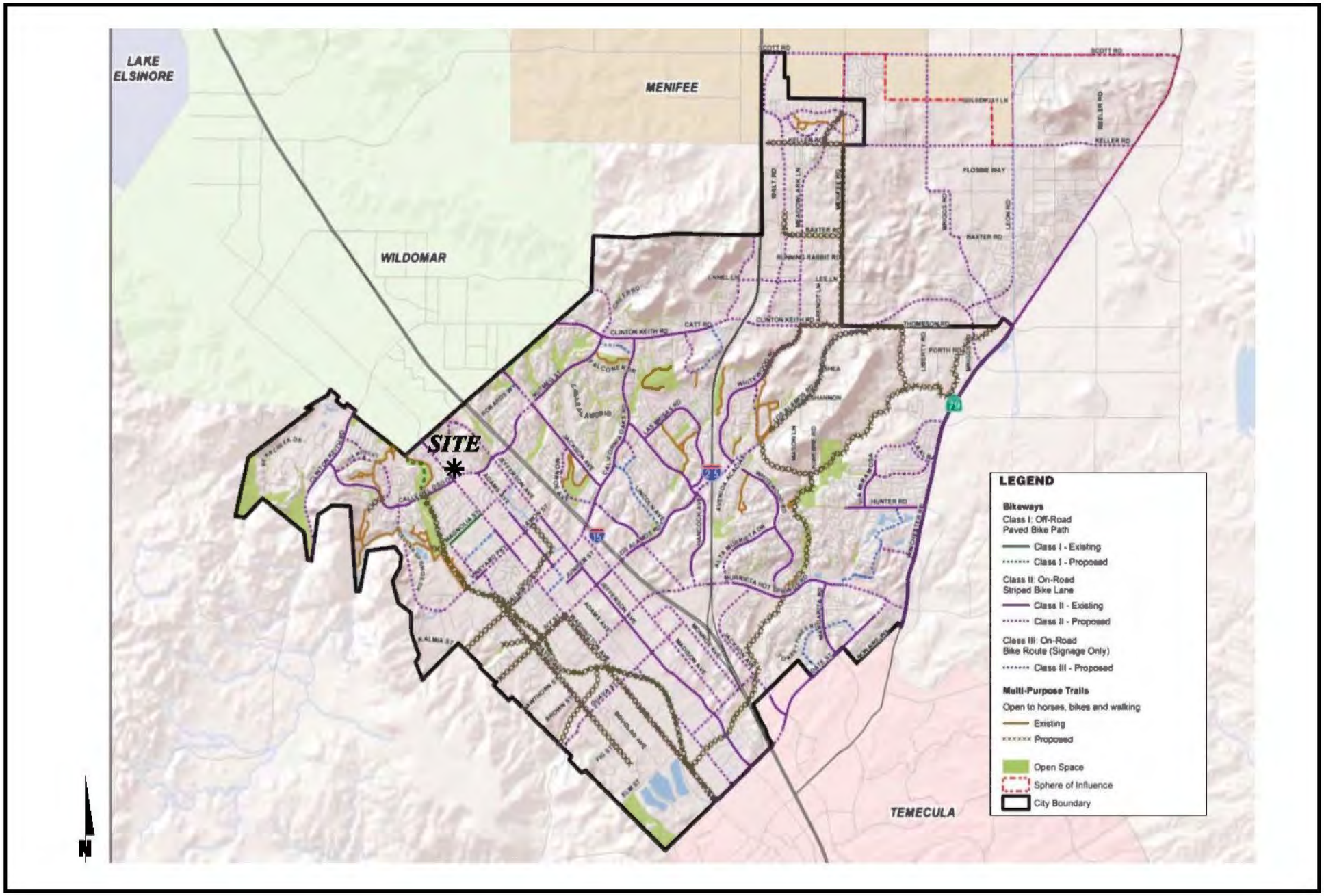


SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-5b

Tom Dodson & Associates
Environmental Consultants

City of Murrieta General Plan
Roadway Cross-Sections



SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-6

Tom Dodson & Associates
Environmental Consultants

City of Murrieta General Plan Trails and Bikeways

SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-7

Tom Dodson & Associates
Environmental Consultants

Existing Pedestrian Facilities

SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-8

Tom Dodson & Associates
Environmental Consultants

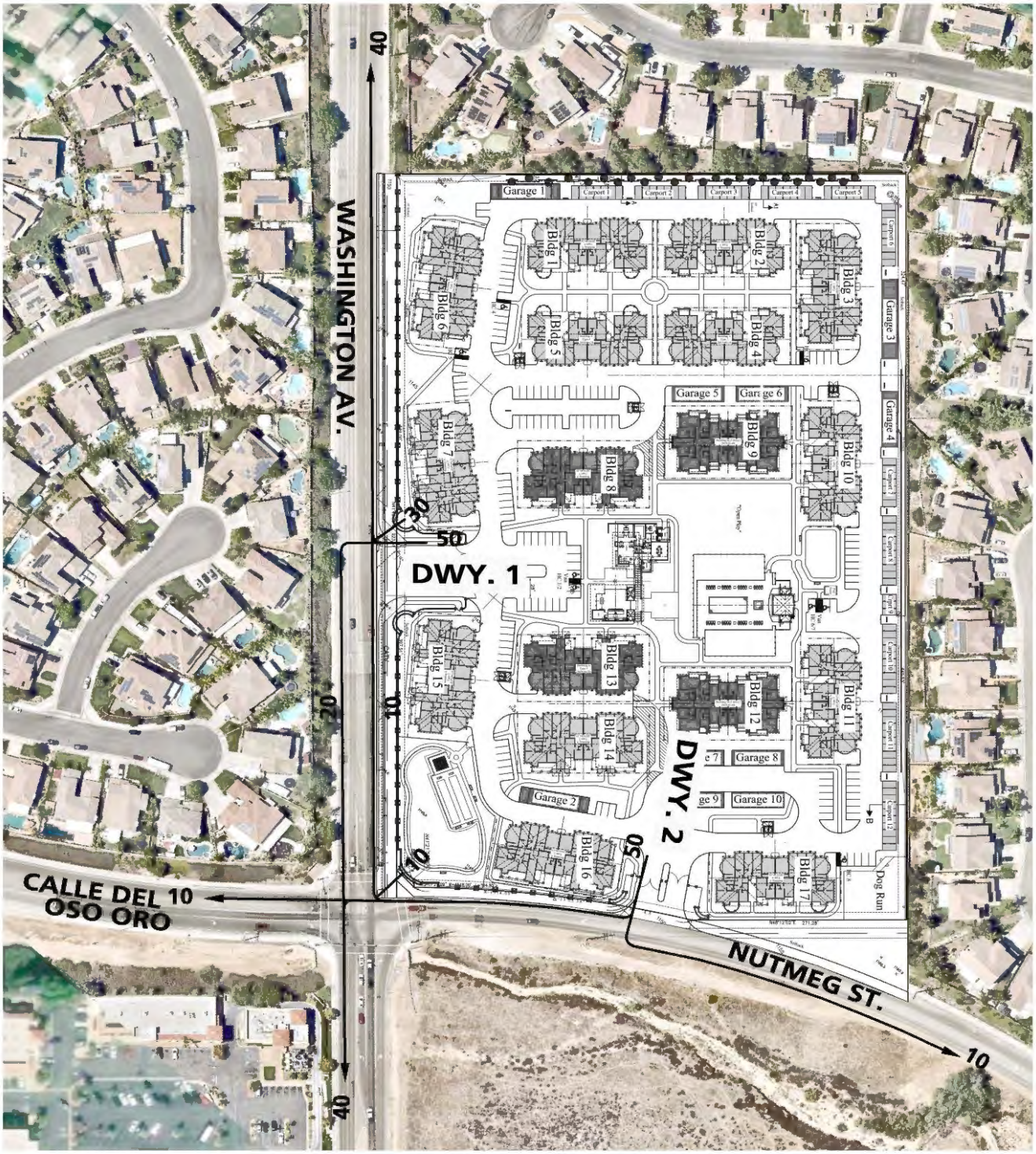
Existing Transit Routes

SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-9

Tom Dodson & Associates
Environmental Consultants

Existing (2019) Summary of LOS



LEGEND:

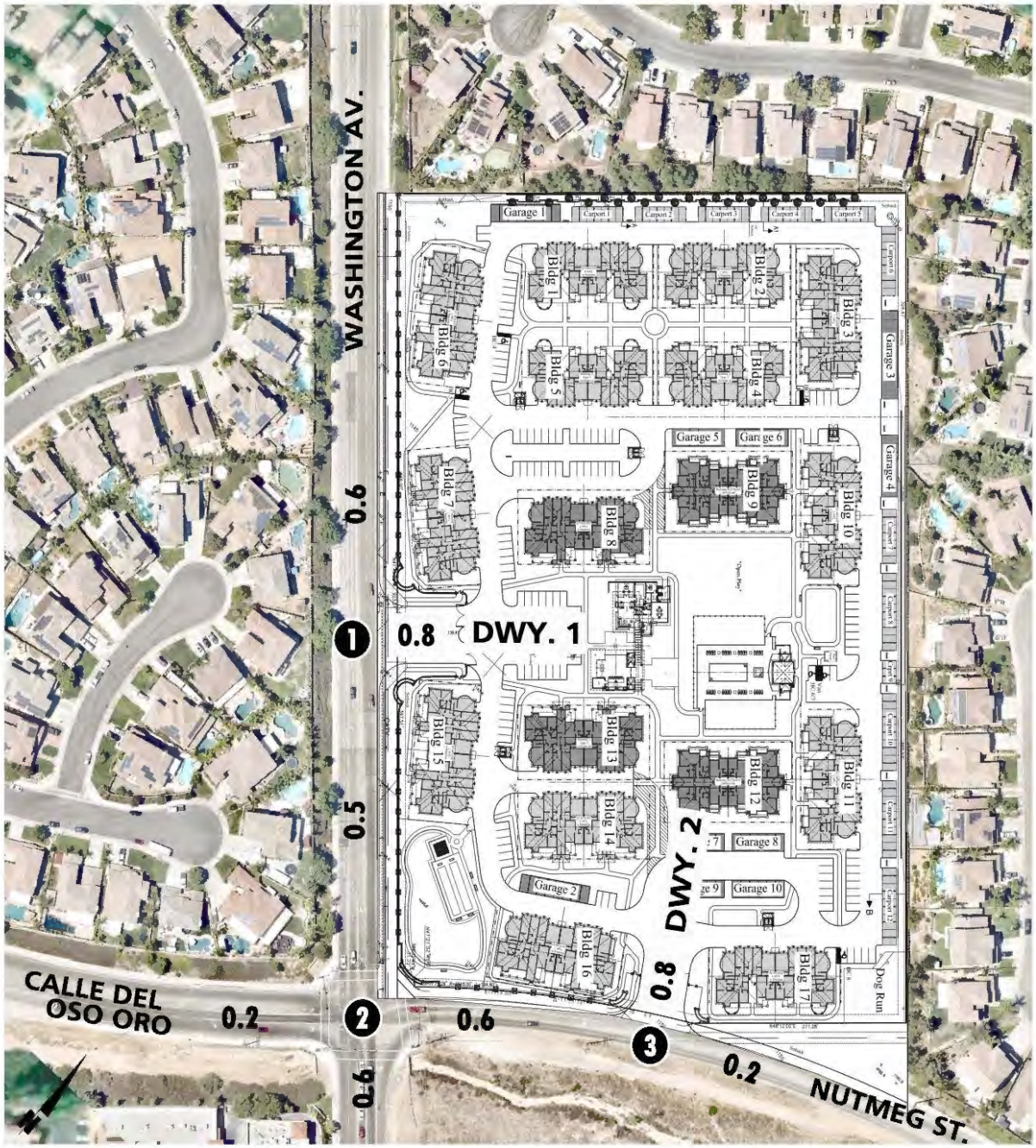
10 = PERCENT TO/FROM PROJECT

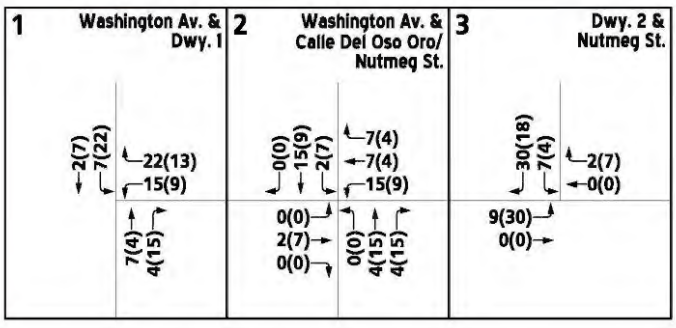
SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-10

Tom Dodson & Associates
Environmental Consultants

Project Trip Distribution





LEGEND:

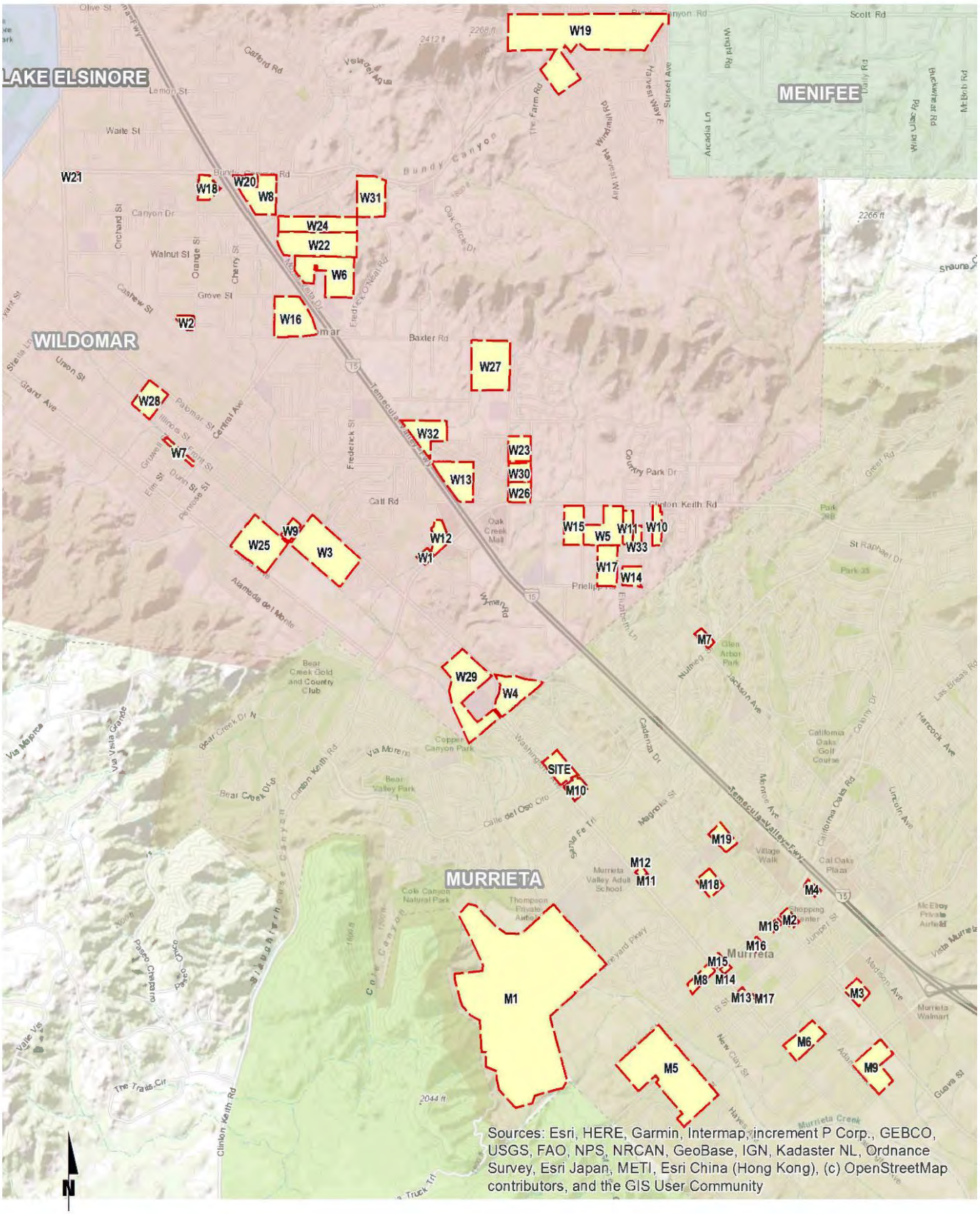
10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES
10.0 = VEHICLES PER DAY (1000'S)

SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-11

Tom Dodson & Associates
Environmental Consultants

Project Only Traffic Volumes



SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-12

Tom Dodson & Associates
Environmental Consultants

Cumulative Development Project Location Map

1 Washington Av. & Dwy. 1	2 Washington Av. & Calle Del Oso Oro/ Nutmeg St.	3 Dwy. 2 & Nutmeg St.
Future Intersection	0(0) 49(55) 1(1) — 1(1) 0(1) 7(23); 0(0) 0(0) 1(4) — 4(2) 38(62) 20(14)	Future Intersection

LEGEND:

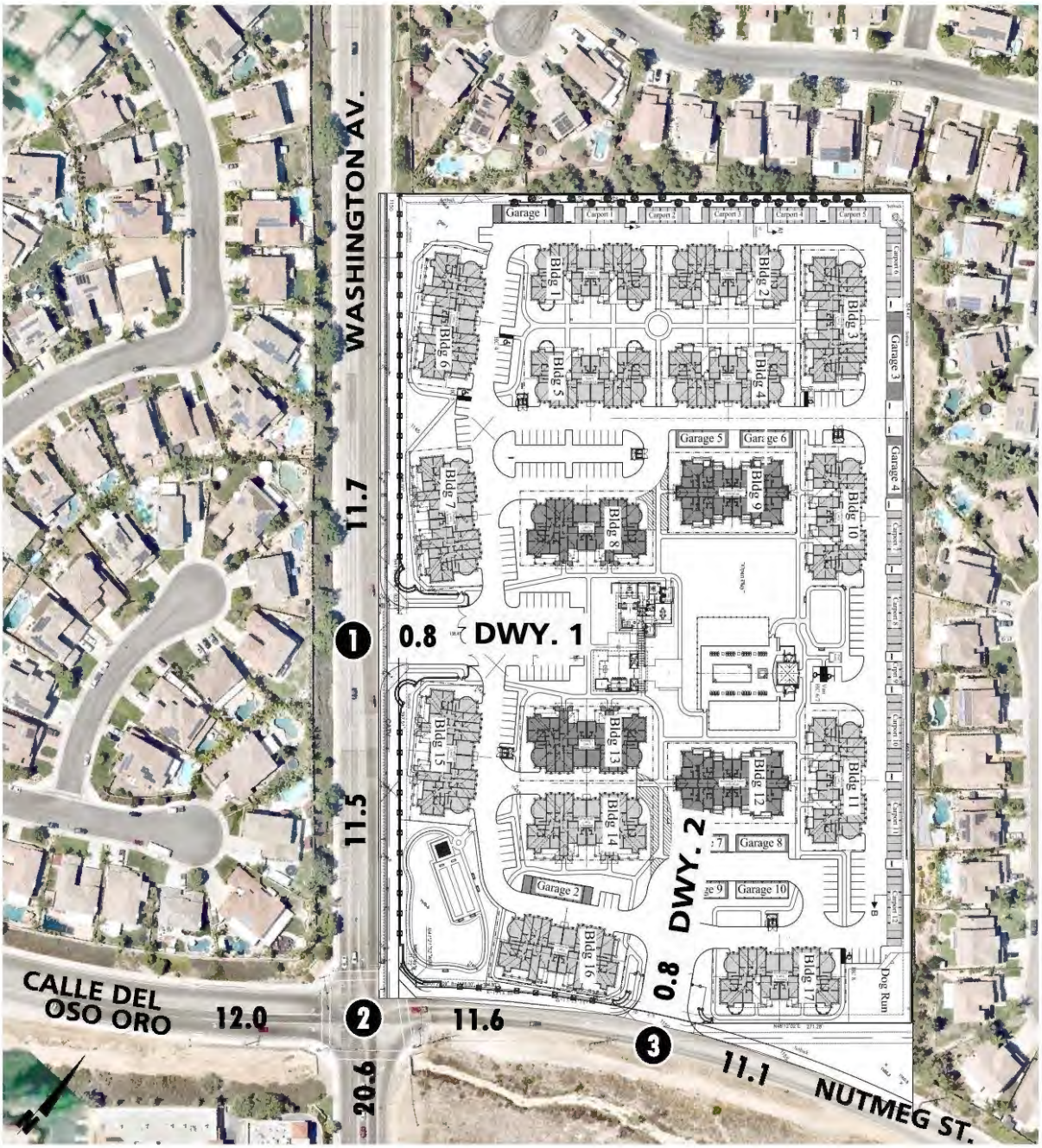
10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES
10.0 = VEHICLES PER DAY (1000'S)

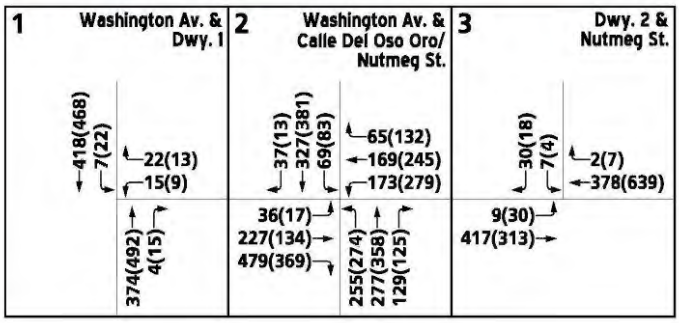
SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-13

Tom Dodson & Associates
Environmental Consultants

Cumulative Only Traffic Volumes





LEGEND:

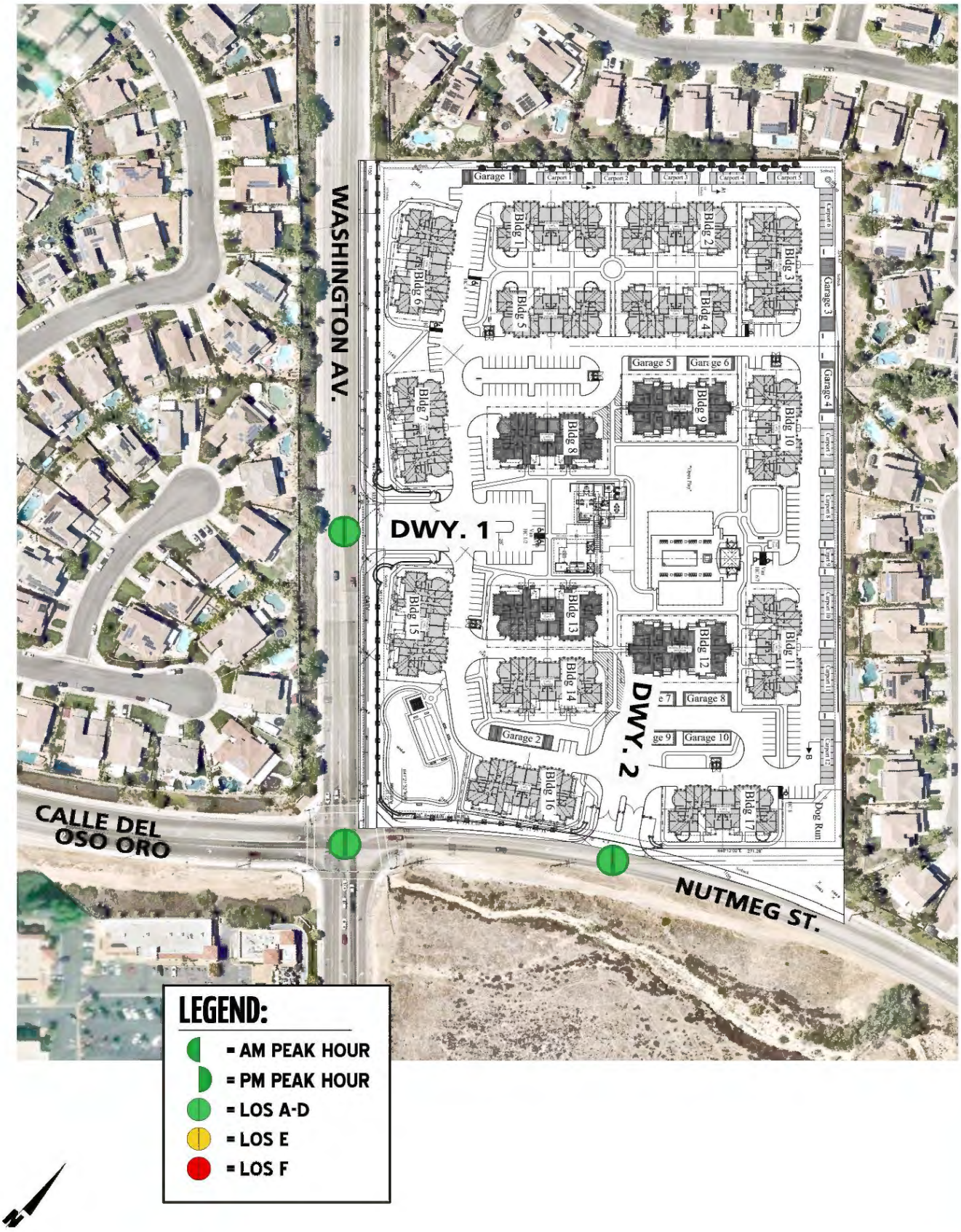
10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES
10.0 = VEHICLES PER DAY (1000'S)

SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-14

Tom Dodson & Associates
Environmental Consultants

E+P Traffic Volumes

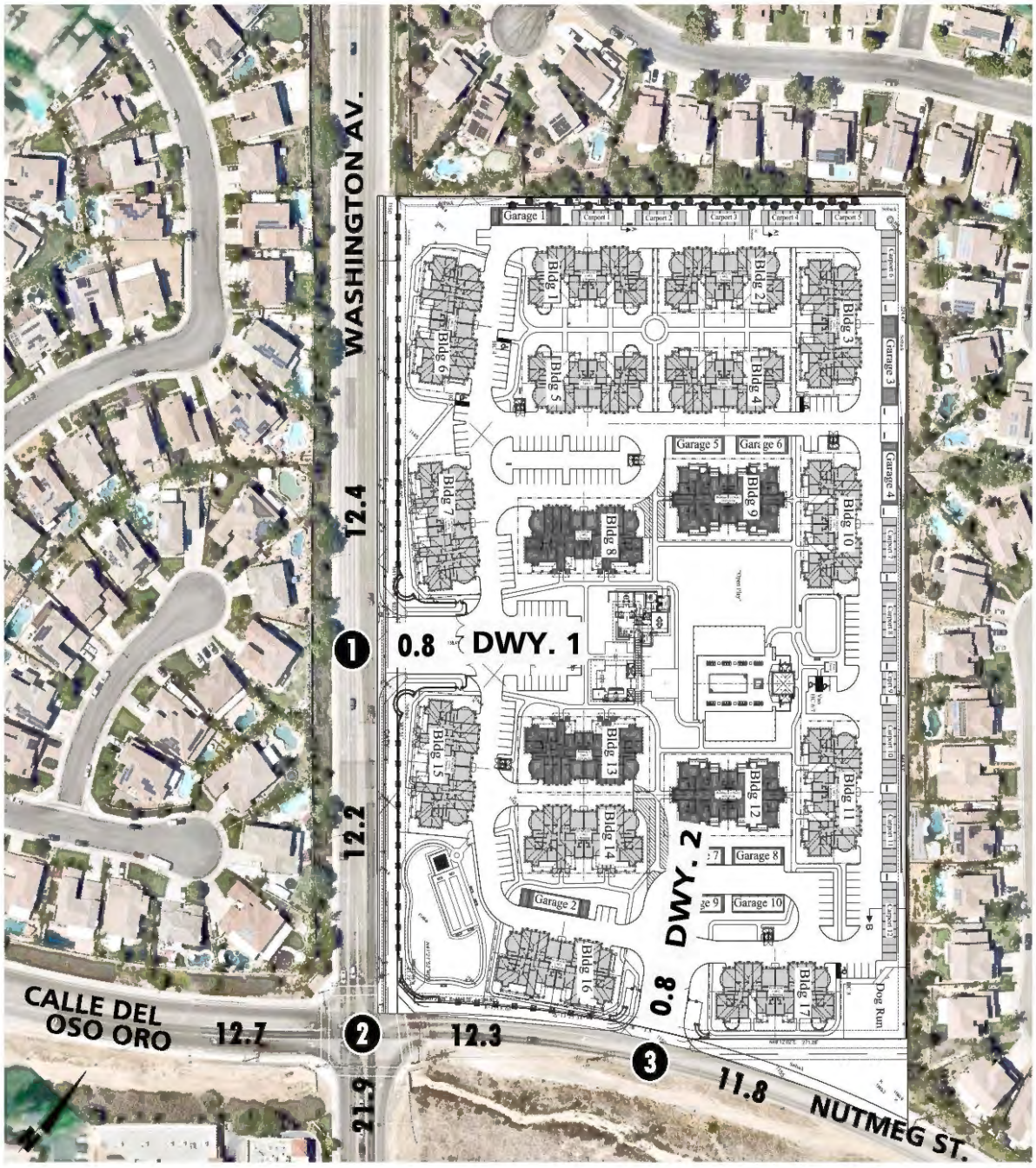


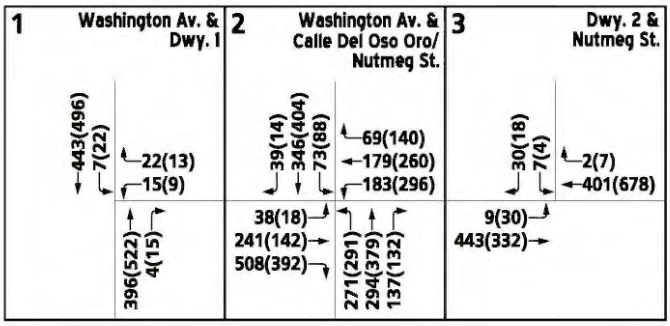
SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-15

Tom Dodson & Associates
Environmental Consultants

E+P Summary of LOS





LEGEND:

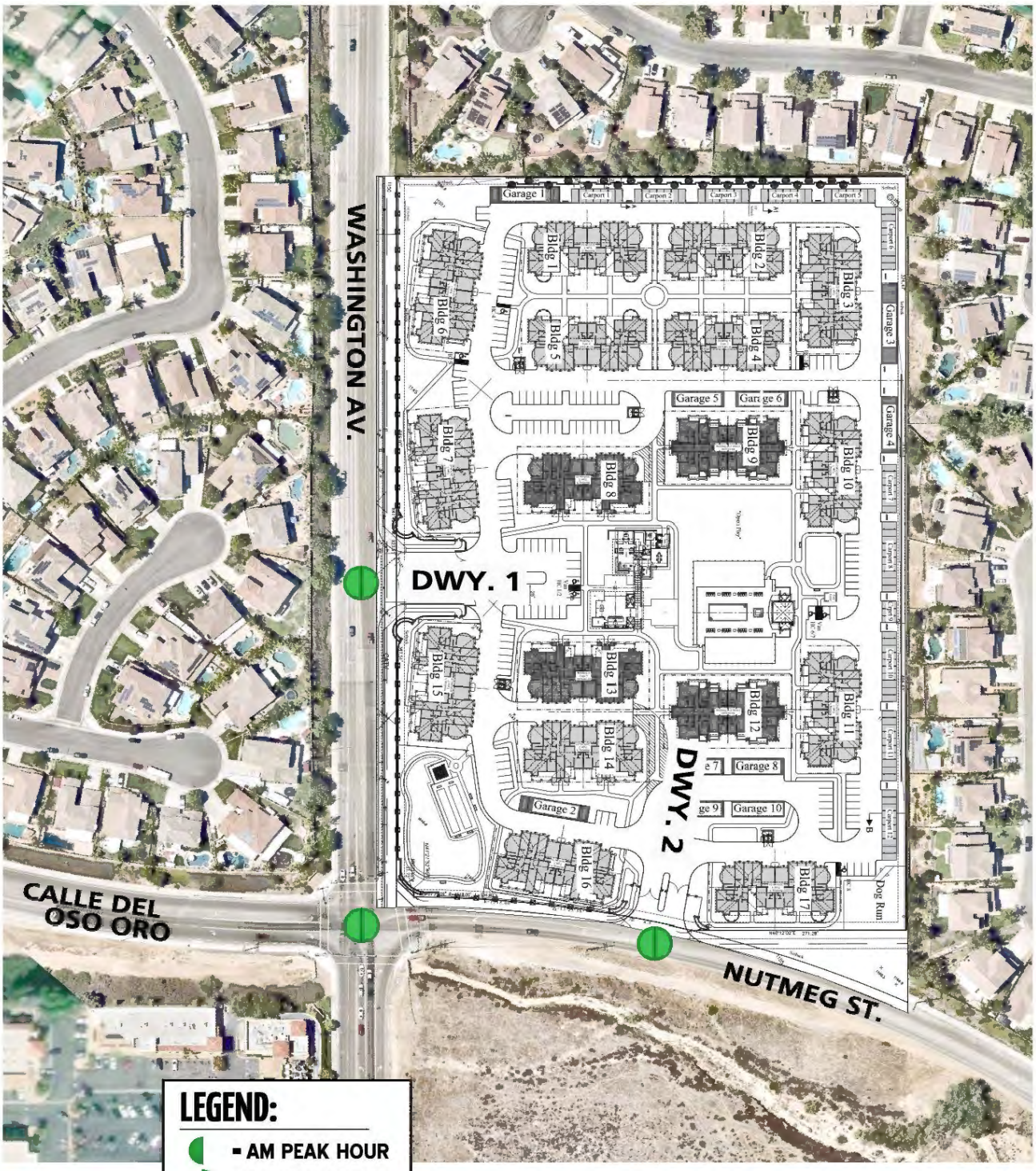
10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES
10.0 = VEHICLES PER DAY (1000'S)

SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-16

Tom Dodson & Associates
Environmental Consultants

EAP (2022) Traffic Volumes

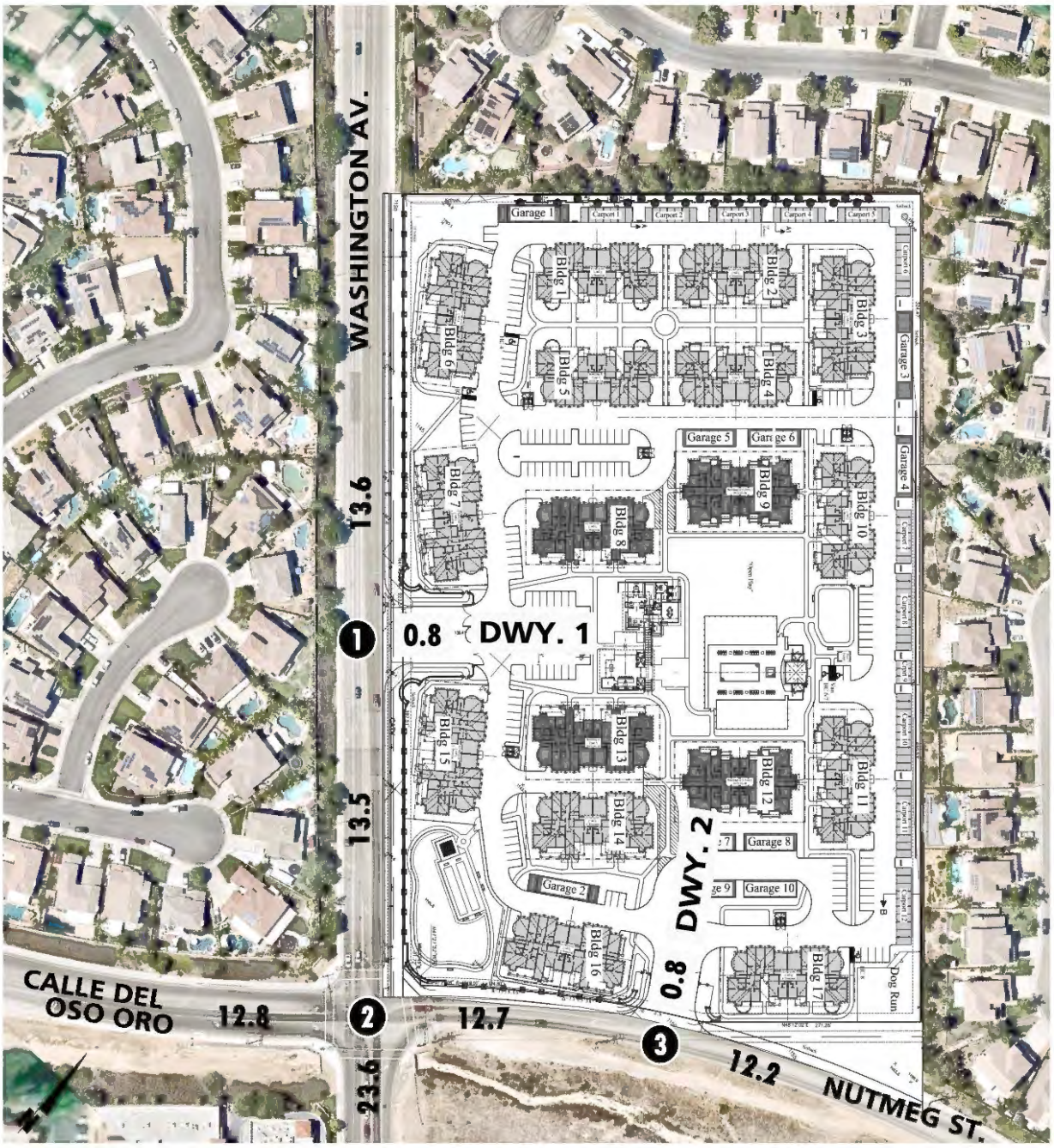


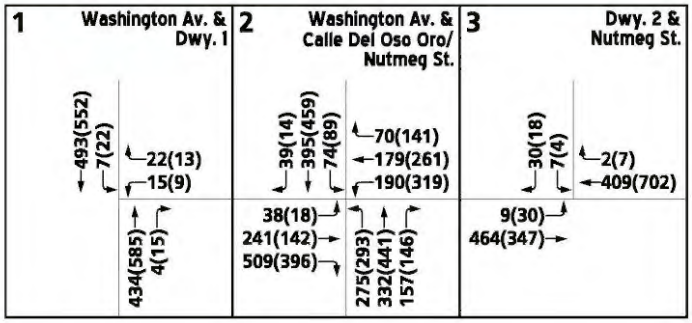
SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-17

Tom Dodson & Associates
Environmental Consultants

EAP (2022) Summary of LOS





LEGEND:

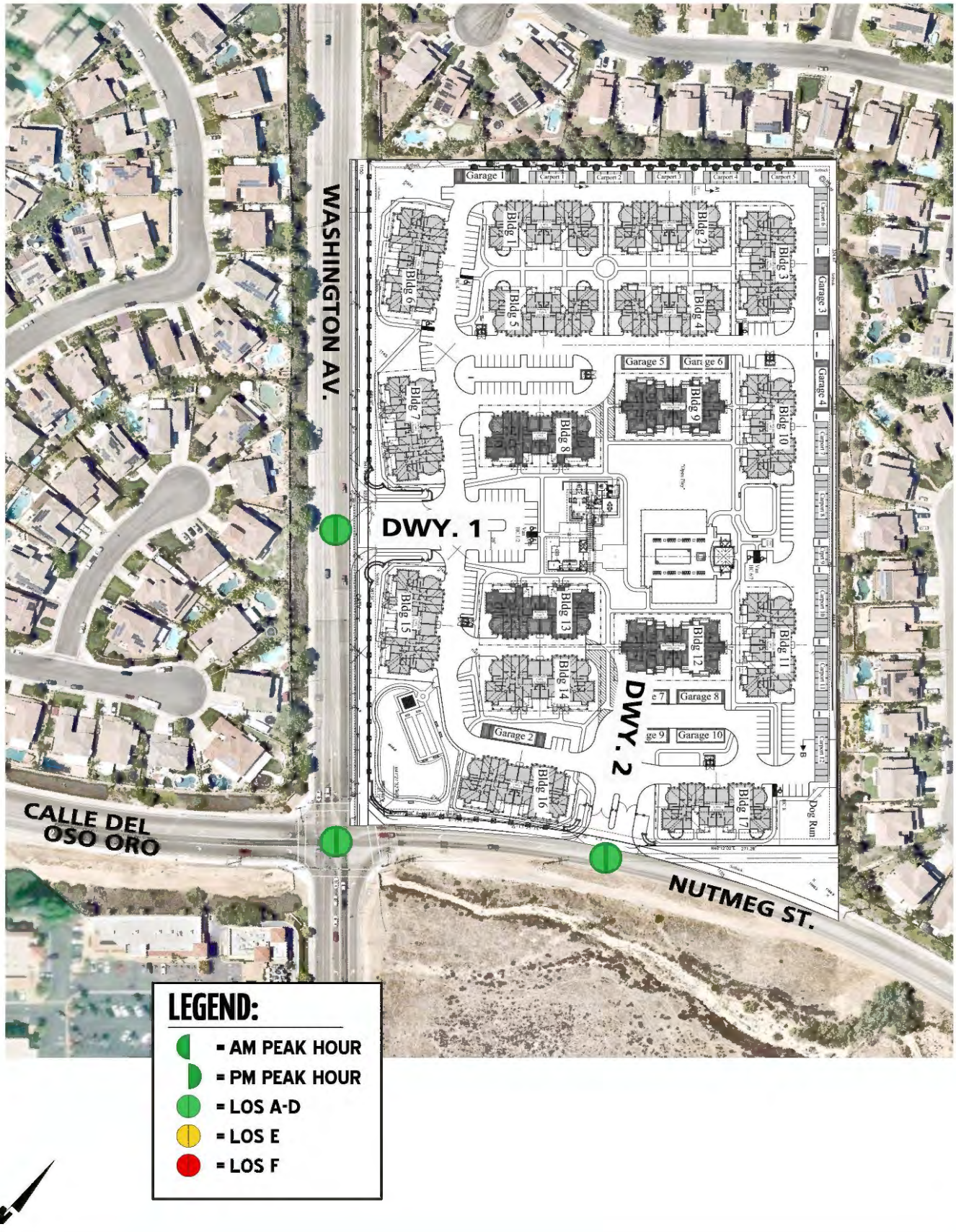
10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES
10.0 = VEHICLES PER DAY (1000'S)

SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-18

Tom Dodson & Associates
Environmental Consultants

EAPC (2022) Traffic Volumes



SOURCE: Focused Traffic Impact Analysis prepared by Urban Crossroads, September 2019

FIGURE XVII-19

Tom Dodson & Associates
Environmental Consultants

EAPC (2022) Summary of LOS

WESTERN RIVERSIDE COUNTY

FRAP
Fire and Resource Assessment Program
California Department of Forestry and Fire Protection

VERY HIGH FIRE HAZARD SEVERITY ZONES IN LRA

As Recommended By CAL FIRE

FIGURE XX-1

SAN BERNARDINO COUNTY

ORANGE COUNTY

SAN DIEGO COUNTY

Lake Arrowhead
Sugarloaf
Yucca Valley
Highland
San Bernardino
Cucamonga
Fontana
Colton
Ontario
Yucaipa
Mira Loma
Calimesa
Desert Hot Springs
RIVERSIDE
Norco
Moreno Valley
Beaumont
Banning
Corona
El Cerrito
Lake Perris
Lake Matthews
Palm Springs
Thousand Palms
Cathedral City
Rancho Mirage
Silverado
Hemet
Idyllwild
Palm Desert
Indian Wells
Indio
Coachella
LaQuinta
Thermal
Lake Elsinore
Canyon Lake
Diamond Valley Lake
Trabuco Canyon
Pinyon Crest
Mission Viejo
Lake Skinner
Murrieta
Anza
Temecula
Oasis
Oak Grove
Borrego Springs
Lake Henshaw

FIRE HAZARD SEVERITY ZONES

Local Responsibility Area	State or Federal Responsibility Area
VHFHSZ	VHFHSZ
Non-VHFHSZ	Non-VHFHSZ
Incorporated Cities	Pala Mesa

Government Code 51175-89 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of very high fire hazard severity zones within Local Responsibility Areas (LRA). Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on data and models of, **potential** fuels over a 30-50 year time horizon and their associated expected fire behavior, and expected burn probabilities to quantify the likelihood and natural vegetation fire exposure (including firebrands) to buildings. Details on the project and specific modeling methodology can be found at http://frap.fire.ca.gov/projects/hazard/fhz.html. Local Responsibility Area VHFHSZ maps were initially developed in the mid-1990s and are now being updated based on improved science, mapping techniques, and data.

In late 2005 to be effective in 2008, the California Building Commission adopted California Building Code Chapter 7A requiring new buildings in VH FHSZs to use ignition resistant construction methods and materials. These new codes include provisions to improve the ignition resistance of buildings, especially from firebrands. The updated very high fire hazard severity zones will be used by building officials for new building permits in LRA. The updated zones will also be used to identify property whose owners must comply with natural hazards disclosure requirements at time of property sale and 100 foot defensible space clearance. It is likely that the fire hazard severity zones will be used for updates to the safety element of general plans.

This specific map is based on a geographic information system dataset that depicts final CAL FIRE recommendations for Very High FHSZs within the local jurisdiction. The process of finalizing these boundaries involved an extensive local review process, the details of which are available at http://frap.cdf.ca.gov/projects/hazard/btnet/ (click on "Continue as guest without logging in"). Local government has 120 days to designate, by ordinance, very high fire hazard severity zones within its jurisdiction after receiving the recommendation. Local government can add additional VHFHSZs. There is no requirement for local government to report their final action to CAL FIRE when the recommended zones are adopted. Consequently, users are directed to the appropriate local entity (county, city, fire department, or Fire Protection District) to determine the status of the local fire hazard severity zone ordinance.

0 5 Miles
0 10 Kilometers

Projection Albers, NAD 1927
Scale 1: 150,000
at 40" x 34"
December 24, 2009

MAP ID: FHSZL_MAP

Obtain FRAP maps, data, metadata and publications on the Internet at http://frap.cdf.ca.gov
For more information, contact CAL FIRE-FRAP, PO Box 944246, Sacramento, CA 94244-2460, (916) 327-3939.

Arnold Schwarzenegger, Governor,
State of California
Mike Chrisman, Secretary for Resources,
The Natural Resources Agency
Del Walters, Director,
Department of Forestry and Fire Protection

DATA SOURCES
CAL FIRE Fire Hazard Severity Zones (FHSZL06_3)
CAL FIRE State Responsibility Areas (SRA05_5)
CAL FIRE Incorporated Cities (Incorp07_3)
PLSS (1:100,000 USGS, Land Grants with CAL FIRE grid)