



DRAFT
Environmental Impact Report
City of Napa General Plan Housing Element
City of Napa, Napa County, California

State Clearinghouse No. 2014052002

Prepared for:



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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ARB	California Air Resources Board
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BMP	Best Management Practices
C	Celsius
CAAQS	California Ambient Air Quality Standards
Cal OSHA	California Occupational Health and Safety Administration
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CH ₄	methane
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO ₂ e	carbon dioxide equivalent
dB	decibel
dba	A-weighted sound level
DPM	diesel particulate matter
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
F	Fahrenheit
FCS	FirstCarbon Solutions
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GPA	General Plan Amendment
GWh/y	gigawatt-hours per year
GWP	global warming potential
HCD	California Department of Housing and Community Development
HCM	Highway Capacity Manual
HFC	hydrofluorocarbon

Acronyms and Abbreviations

I	Interstate
ITE	Institute of Transportation Engineers
LAFCO	Local Agency Formation Commission
L _{dn}	day/night average sound level
L _{eq}	equivalent sound level
L _{max}	maximum noise level
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MOE	Measure of Effectiveness
mph	miles per hour
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCTPA	Napa County Transportation and Planning Agency
NO ₂	nitrogen dioxide
NOC	Notice of Completion
NOP	Notice of Preparation
NO _x	nitrogen oxides
O ₃	ozone
pCi/l	picocuries per liter
PDA	Priority Development Area
PeMS	Caltrans Performance Measurement System
PM _x	particulate matter
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
RHNA	Regional Housing Needs Assessment
RHNP	Final Regional Housing Needs Plan
rms	root mean square
ROG	reactive organic gases
RUL	City of Napa Rural Urban Limit
SF ₆	sulfur hexafluoride
SFI	Single Family Infill
SO ₂	sulfur dioxide
SPRR	Southern Pacific Railroad
SR	State Route
TAC	toxic air contaminants
therms/y	therms per year

TRI	Traditional Residential
Vdb	vibration levels in decibels
VOC	volatile organic compound

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EXECUTIVE SUMMARY

Purpose

This Draft Environmental Impact Report (Draft EIR) is prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the implementation of the City of Napa General Plan Housing Element (State Clearinghouse No. 2014052002). This document is prepared in conformance with CEQA (California Public Resources Code, Section 21000, et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000, et seq.).

The purpose of this Draft EIR is to inform decision makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental effects that may result from implementation of the proposed project. This Draft EIR describes potential impacts relating to a wide variety of environmental issues and methods by which these impacts can be mitigated or avoided.

Project Summary

Project Location

The project is located in the City of Napa, Napa County, California. The City of Napa is located in southern Napa County and is surrounded by agricultural areas (north), Vaca Mountains (east), San Pablo Bay (south), and the Mayacamas Mountains (west). The Napa River flows from north to south through the City to San Pablo Bay. State Route 12 (SR-12), SR-29, SR-121, and SR-221 provide regional access to the City.

Project Description

In accordance with state law, the City of Napa proposes to adopt a General Plan Amendment (GPA), updating the General Plan's Housing Element for the 2015–2023 planning period. In updating the Housing Element, the City is not proposing any new housing sites, nor is the City proposing any changes to land use designations or development standards. No specific development projects would be approved in connection with adoption of the Housing Element, and all future developments will be subject to CEQA review.

Sections 1, 2, 3, 5, and 6 of the Housing Element provide background information and analysis relevant to City housing policies and programs. Updates to these sections do not have the potential to result in changes to development patterns or any physical changes to the environment that would require CEQA review. Any potential environmental impacts that could result from adoption of the Housing Element would result from changes to the program actions contained in Section 4 of the element. These programs describe the City's commitments to future actions (refer to the draft Housing Element for the full text of these programs). However, no specific developments or regulatory changes are proposed within Section 4 that would result in environmental impacts.

The draft Housing Element identifies 51 potential housing sites that could accommodate development of 1,750 new housing units, which exceeds the portion of the region’s new housing need of 835 City units and 57 County units that have been allocated by the Association of Bay Area Governments and County transfer agreements to the City of Napa for the 2015–2023 period, as shown in Table ES-1. In addition, the draft Housing Element identifies additional sites beyond the 51 that could be developed for future residential uses, however, these sites are not currently counted towards the RHNA and are not considered as part of the project analyzed herein.

Table ES-1: Napa’s 2015–2023 Regional Housing Needs Allocation (RHNA)

RHNA	Very Low Income	Low Income	Moderate	Above Moderate	Total Units
City Need	185	106	141	403	835
County Transfers	16	10	10	21	57
Total City	201	116	151	424	892

Note:
The City of Napa and the County of Napa have entered into two separate transfer agreements for the transfer of 57 housing units from the County to the City.
Source: Associate of Bay Area Governments, 2013; City of Napa, 2014.

Land suitable for residential development includes vacant residentially zoned sites, vacant non-residentially zoned sites that allow residential uses, underutilized residentially zoned sites capable of being developed at higher density or with greater intensity, and non-residentially zoned sites that can be redeveloped and/or rezoned for residential use. As listed in Appendix B of the draft Housing Element, the current Housing Element identifies sufficient appropriately zoned sites to accommodate the housing needs identified in the RHNA during the 2015–2023 planning period, therefore no changes to land use plans or regulations are needed to provide additional capacity for housing development.

Project Objectives

The objectives of the proposed draft Housing Element are to:

1. Use the remaining land in the City’s Rural Urban Limit (RUL) efficiently to protect our agricultural surroundings;
2. Provide more varied housing types and choices to meet our needs;
3. Create great neighborhoods;
4. Provide housing for our local special needs populations;
5. Establish a long-term sense of community and responsibility;
6. Maintain existing residential land use and zoning designations; and
7. Meet state and regional housing requirements.

Significant Unavoidable Adverse Impacts

The proposed project would result in the following significant unavoidable impacts:

- **Northbound SR-221 segment south of W. Imola (SR-121) Cumulative LOS:** The proposed project would contribute significant traffic trips to the segment of SR-221 south of W. Imola (SR-121) in the northbound direction in the PM peak hour, which would already operate at unacceptable LOS in the cumulative scenario before the addition of project traffic.

Under cumulative plus project scenario, the project would contribute significant traffic trips to the northbound segment of SR-221 south of W. Imola Avenue (SR-121) in the PM peak hour, which operates at unacceptable LOS with or without the project. Both the Napa Pipe Final EIR (Napa County 2012) and the Napa County Jail Project Draft EIR (Napa County 2013) identified mitigation measures to improve operations at the SR-221 and W. Imola Avenue intersection. Upon implementation of the stated measures (which include construction of an additional left-turn lane on the eastbound approach, and construction of an exclusive right-turn lane on the westbound approach), the operations at the intersection as well as on the adjacent segments on SR-221 and W. Imola Avenue would be improved. These recommended intersection improvements would provide acceptable traffic operations relative to the City's intersection level of service thresholds. However, the analysis and modeling used herein cannot definitively indicate if the intersection modifications would improve the LOS for the street segment to an acceptable level.

Mitigation in this Draft EIR requires the provision of an additional northbound through lane on SR-221 north of Magnolia Drive to ensure an acceptable segment LOS. However, because SR-221 is under Caltrans's jurisdiction, the feasibility and timing of implementing the measure is not under the City's control. As such, the potential impact would remain significant and unavoidable.

Summary of Project Alternatives

Below is a summary of the alternatives to the proposed project considered in Section 5, Alternatives to the Proposed Project.

No Project/Existing Housing Element Alternative

Under this alternative, the existing Housing Element would remain in effect for residential development within the City of Napa. The existing Housing Element identifies the same housing sites as proposed in the Housing Element and, therefore, also provides sufficient housing sites for the required 2015-2023 Regional Housing Needs Assessment (RHNA) allocation. Further, there is no difference in land use designations or development standards between the existing and proposed Housing Element. As such, under this alternative, the significant and unavoidable traffic impact identified above would still occur.

This alternative would not avoid any of the significant unavoidable impacts, nor would it lessen the degree of any less-than-significant impacts or create additional impacts compared with the proposed Housing Element. Similar to the proposed project, housing development under this alternative would be subject to the City's Inclusionary Housing Ordinance. This alternative would advance all of

the project objectives, but would not be in compliance with state law requiring revision of a Housing Element every 5 years to ensure consistency with the Regional Housing Needs Assessment (RHNA) allocation assigned to the City.

Alternative Rejected From Further Consideration

Reduced Residential Development Intensity

A reduction in overall housing sites, through re-designation of a portion of the sites to a lower development intensity or non-residential land use, may have the potential to reduce trip generation and would therefore reduce the project's contribution to the significant unavoidable traffic impact. However, the sites would need to be re-designated for potential future development that would, in fact result in lower trip generation. Such redesignations may not be appropriate in terms of land use compatibility with existing development and designations, thereby resulting in significant land use impacts. Furthermore, re-designation of existing housing sites may hinder the City's future ability to provide sufficient housing sites, achieve consistency with the RHNA allocation, and comply with State Housing Element Law. In addition, reduction of development intensity would reduce the financial feasibility and economic viability of development of the residential sites. As such, implementation of residential construction would be economically impaired. Finally, this alternative has been determined as infeasible, due to its inconsistency with existing General Plan designations and regulatory requirements regarding future provision of housing sites. In summary, this alternative would not meet the CEQA Guidelines objective of avoiding or substantially lessening the proposed project significant effects and, therefore, has been rejected from further consideration.

Areas of Controversy

Pursuant to CEQA Guidelines Section 15123(b), a summary section must address areas of controversy known to the lead agency, including issues raised by agencies and the public, and it must also address issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects.

A Notice of Preparation (NOP) for the proposed project was issued on May 1, 2014. The NOP described the project and issues to be addressed in the EIR, and was distributed to the State Clearinghouse, responsible agencies, and other interested parties for a 30-day public review period extending from May 1, 2014 through May 31, 2014. The NOP identified the potential for significant impacts on the environment related to the following topical areas:

- Air Quality
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Population and Planning
- Transportation and Traffic

No areas of controversy were identified during the NOP process.

Public Review of the Draft EIR

The Draft EIR will be available for public review for the statutory 45-day review period beginning November 7, 2014. The document will be available for public review at the following locations:

City of Napa
Community Development Department
1600 First Street
Napa, CA 94559
Hours:
Monday–Friday: 8 a.m. to 5 p.m.

Napa Main Library
580 Coombs Street
Napa, CA 94559
707.253.4241
Hours:
Monday–Thursday: 10 a.m. to 9 p.m.
Friday–Saturday: 10 a.m. to 6 p.m.
Sunday: Closed

Executive Summary Matrix

Table ES-2 below summarizes the impacts, mitigation measures, and resulting level of significance after mitigation for the relevant environmental issue areas evaluated for the proposed project. The table is intended to provide an overview; narrative discussions for the issue areas are included in the corresponding section of this EIR. Table ES-2 is included in the EIR as required by CEQA Guidelines Section 15123(b)(1).

Table ES-2: Executive Summary Matrix

Impacts	Mitigation Measures	Level of Significance After Mitigation
Section 3.1 – Air Quality		
<p>Impact AIR-1: Implementation of the Housing Element may conflict with or obstruct implementation of the applicable air quality plan.</p>	<p>Implement Mitigation Measure AIR-2a, AIR-2b, and AIR-4.</p>	<p>Less than significant impact.</p>
<p>Impact AIR-2: Implementation of the Housing Element may violate an air quality standard or contribute substantially to an existing or projected air quality violation.</p>	<p>MM AIR-2a: To reduce fugitive dust (PM10) emissions from future construction activity, the following measures or measures recommended by BAAQMD at the time of construction shall be implemented, including but not limited to:</p> <ul style="list-style-type: none"> • Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times. • Cover all hauling trucks or maintain at least 2 feet of freeboard. • Pave, apply water at least twice daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas. • Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads. • Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (i.e., previously graded areas that are inactive for 10 days or more). • Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles. • Limit traffic speeds on any unpaved roads to 15 miles per hour. • Replant vegetation in disturbed areas as quickly as possible. • Suspend construction activities that cause visible dust plumes to extend beyond the construction site. • Post a publicly visible sign or signs with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations. 	<p>Less than significant impact.</p>

Table ES-2 (cont.): Executive Summary Matrix

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>MM AIR-2b: To reduce future exhaust emissions from off-road construction equipment, the following measures or measures recommended by BAAQMD at the time of construction shall be implemented, including but not limited to:</p> <ul style="list-style-type: none"> • The developer or contractor shall provide a plan for approval by the City or BAAQMD demonstrating that heavy-duty off-road vehicles to be used in the construction project, including owned, leased, and/or subcontractor vehicles, shall meet or exceed United States Environmental Protection Agency Tier 3 off-road emissions standards when more than five pieces of off-road diesel equipment with a horsepower greater than 70 per piece of equipment would operate on one day. The plan shall include quantification of air pollutant emissions demonstrating that the project would not exceed the Bay Area Air Quality Management District’s thresholds of significance for project construction. • Clear signage at all construction sites will be posted indicating that diesel equipment standing idle for more than five minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were onsite or adjacent to the construction site. • The contractor shall install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g., compressors). • Properly tune and maintain equipment for low emissions. 	
<p>Impact AIR-3: Implementation of the Housing Element would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).</p>	<p>None required.</p>	<p>Less than significant impact.</p>

Table ES-2 (cont.): Executive Summary Matrix

Impacts	Mitigation Measures	Level of Significance After Mitigation
<p>Impact AIR-4: Implementation of the Housing Element may expose sensitive receptors to substantial pollutant concentrations.</p>	<p>MM AIR-4: Prior to issuance of future building permits for any sensitive receptor use (i.e., residential uses) that would be developed pursuant to the Housing Element, the applicant shall prepare and submit either:</p> <ol style="list-style-type: none"> 1. A risk screening assessment to the City of Napa that demonstrates the cumulative risk to the receptor would be less than the Bay Air Quality Management District’s (BAAQMD) cumulative risk threshold (2010 Thresholds). <li style="text-align: center;">or, 2. A Health Risk Analysis that quantifies the potential risk to onsite receptors and, if necessary, identifies project-specific risk reduction measures. The Health Risk Analysis shall be prepared consistent with BAAQMD guidance and must demonstrate the risk would be less than the BAAQMD cumulative risk threshold (2010 Thresholds). Examples of project-specific risk reduction measures include the use of air filtration with a minimum efficiency reporting value (MERV) of 13 or greater. All project-specific risk reduction measures identified in the Health Risk Analysis shall be incorporated into the development. 	<p>Less than significant impact.</p>
<p>Impact AIR-5: Implementation of the Housing Element would not result in objectionable odors affecting a substantial number of people.</p>	<p>None required.</p>	<p>Less than significant impact.</p>
<p>Section 3.2 – Greenhouse Gas Emissions</p>		
<p>Impact GHG-1: Implementation of the Housing Element would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.</p>	<p>None required.</p>	<p>Less than significant impact.</p>
<p>Impact GHG-2: Implementation of the Housing Element would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.</p>	<p>None required.</p>	<p>Less than significant impact.</p>

Table ES-2 (cont.): Executive Summary Matrix

Impacts	Mitigation Measures	Level of Significance After Mitigation
Section 3.3 – Land Use and Planning		
Impact LUP-1: Implementation of the Housing Element would not physically divide an established community.	None required.	Less than significant impact.
Impact LUP-2: Implementation of the Housing Element 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, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	None required.	Less than significant impact.
Section 3.4 – Noise		
Impact NOI-1: Implementation of the Housing Element would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	None required.	Less than significant impact.
Impact NOI-2: Implementation of the Housing Element may result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	<p>MM NOI-2a: Prior to issuance of a demolition, grading or building permit, for any project resulting from buildout associated with implementation of the proposed Housing Element that would operate heavy construction equipment within 25 feet of sensitive receptors, the project applicant shall prepare a vibration impact assessment for review and approval by City staff. The report shall determine potential construction-related groundborne vibration impacts to off-site sensitive receptors. Mitigation shall be incorporated into the project to reduce potential vibration impacts to below the Federal Transit Administration’s construction vibration impact criteria. Such measures may include but are not limited to restrictions on the type and number of pieces of heavy construction equipment that may operate within 25 feet of sensitive receptors.</p> <p>MM NOI-2b: Prior to issuance of a demolition, grading or building permit, for any project resulting from buildout associated with implementation of</p>	Less than significant impact.

Table ES-2 (cont.): Executive Summary Matrix

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>the proposed Housing Element that would develop residential land uses within 100 feet of the centerline of the Southern Pacific Railroad rail line, the project applicant shall prepare a vibration impact assessment for review and approval by City staff. The report shall determine potential railroad-related groundborne vibration impacts to proposed sensitive receptors. Mitigation shall be incorporated into the project to reduce potential railroad-related vibration impacts to below the Federal Transit Administration’s vibration impact criteria outlined in Chapter 8 of the Transit Noise and Vibration Impact Assessment manual. Such measures may include but are not limited to use of setback requirements for sensitive land use development, or vibration dampening construction methods such as resilient or floating foundation construction techniques.</p>	
<p>Impact NOI-3: Implementation of the Housing Element would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.</p>	<p>None required.</p>	<p>Less than significant impact.</p>
<p>Impact NOI-4: Implementation of the Housing Element may result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.</p>	<p>MM NOI-4a: The construction contractor shall ensure that all internal combustion engine-driven equipment is equipped with mufflers that are in good condition and appropriate for the equipment.</p> <p>MM NOI-4b: The construction contractor shall locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area. In addition, the project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.</p> <p>MM NOI-4c: The construction contractor shall prohibit unnecessary idling of internal combustion engines.</p> <p>MM NOI-4d: The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.</p>	<p>Less than significant impact.</p>

Table ES-2 (cont.): Executive Summary Matrix

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>MM NOI-4e: The construction contractor shall designate a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints (starting too early, bad muffler, etc.) and institute reasonable measures warranted to correct the problem. The construction contractor shall conspicuously post a telephone number for the disturbance coordinator at the construction site.</p>	
<p>Section 3.5 – Population and Housing</p>		
<p>Impact POP-1: Implementation of the Housing Element Update would not induce substantial population growth.</p>	<p>None required.</p>	<p>Less than significant impact.</p>
<p>Section 3.6 – Transportation and Traffic</p>		
<p>Impact TRANS-1: Implementation of the Housing Element would not cause an arterial or collector street to exceed LOS D standard except where LOS E is permitted per the City’s General Plan; and would not cause a state highway facility to exceed LOS E under Existing Conditions.</p>	<p>None required.</p>	<p>Less than significant impact.</p>
<p>Impact TRANS-2: Implementation of the Housing Element would add 50 or more trips in the PM peak hour to the northbound SR-221 segment south of W. Imola Avenue where the service level is below acceptable standard under Cumulative Conditions.</p>	<p>MM TRANS-2: Provide an additional northbound through lane on SR-221 north of Magnolia Drive to improve the cumulative impact to a less than significant level.</p>	<p>Because SR-221 is under Caltrans’s jurisdiction, the feasibility and timing of implementing the measure is not under the City’s control. Without confirmed funding or an implementation schedule for the improvement, the impact would remain significant and unavoidable.</p>

Table ES-2 (cont.): Executive Summary Matrix

Impacts	Mitigation Measures	Level of Significance After Mitigation
<p>Impact TRANS-3: Implementation of the Housing Element would not disrupt existing or interfere with planned pedestrians facilities; create a high demand for pedestrian facilities at locations that lack pedestrian facilities; or create inconsistencies with adopted pedestrian system plans, guidelines, policies or standards.</p>	<p>None required.</p>	<p>Less than significant impact.</p>
<p>Impact TRANS-4: The project would not disrupt existing or interfere with planned bicycle facilities, or create inconsistencies with adopted pedestrian system plans, guidelines, policies or standards.</p>	<p>None required.</p>	<p>Less than significant impact.</p>
<p>Impact TRANS-5: Implementation of the Housing Element would not disrupt existing or interfere with planned transit services or facilities; create demand for public transit above that which is provided or planned; or create inconsistencies with adopted transit system plans, guidelines, policies or standards.</p>	<p>None required.</p>	<p>Less than significant impact.</p>
<p>Section 3.7 – Geology, Soils, and Seismicity</p>		
<p>Impact GEO-1: Implementation of the Housing Element would not expose people or structures to substantial adverse effects associated with seismic hazards.</p>	<p>None required.</p>	<p>Less than significant impact.</p>

SECTION 1: INTRODUCTION

1.1 - Overview of the CEQA Process

This Draft Environmental Impact Report (Draft EIR) is prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the implementation of the City of Napa General Plan Housing Element (State Clearinghouse No. 2014052002). This document is prepared in conformance with CEQA (California Public Resources Code, Section 21000, et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000, et seq.). This Draft EIR is intended to serve as an informational document for the public agency decision makers and the public regarding the proposed project.

1.1.1 - Project Overview

The proposed project consists of the implementation of the proposed City of Napa Housing Element. Section 2, Project Description provides a complete description of the project.

1.1.2 - Project Background

In 1998, the City of Napa certified an EIR for the 2020 General Plan, which included a Housing Element. The Housing Element has since then been updated in 2001, 2005, and 2009 to accommodate housing needs. In addition, two separate EIRs have been certified for the Gasser Master Plan (2006) and Downtown Specific Plan (2012) that significantly modified land uses identified in the 2020 General Plan and its EIR, including residentially designated lands.

The 2015–2023 Housing Element considered herein would retain many of the programs of the current (2009) Housing Element; therefore, the framework for environmental review of the proposed Housing Element is established by CEQA Guidelines Section 15162 and Statute Section 21166.

These sections of CEQA and the Guidelines provide that when an EIR has been previously certified for a project (in this case, the 1998 General Plan EIR), no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence, one or more of the following:

1. Substantial changes are proposed in the project that would require major revision to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which would require major revisions of the previous EIR due to the involvement of new significant effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance shows that the project would have one or more significant effects not discussed in the previous EIR, or that significant effects previously

examined would be substantially more severe, or that mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects but the City declined to adopt them, or mitigation measures or alternatives that are different from those included in the previous EIR would substantially reduce one or more significant effects on the environment but the City declined to adopt them.

As discussed in Section 2, Project Description, the 2015–2023 Housing Element does not include substantial changes to the current (2009) Housing Element that would result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. No changes to existing residential land use designations are proposed and changes to policy language would not result in changes to the environment.

However, changes may have occurred in the volume of traffic on local roadways, and changes have also occurred in applicable regulations specifically related to the analysis of air quality and greenhouse gases (see Section 1.2.1 below). The City has determined that a subsequent EIR should be prepared to evaluate these issues to confirm whether the project could affect the conclusions regarding the significance of environmental impacts identified in the previous General Plan EIR.

Where applicable, this EIR refers to relevant analysis conducted in recent EIRs such as those prepared for the Gasser Master Plan and/or Downtown Specific Plan. These EIRs assumed that development associated with the current Housing Element sites would occur; accordingly, and where appropriate, relevant analysis and/or conclusions are cited in this EIR.

Since no specific developments or changes to regulations are identified in the draft Housing Element, the EIR will evaluate potential environmental impacts of development anticipated in the Housing Element at a programmatic level, pursuant to CEQA Guidelines Section 15168 (Program EIR). When specific developments or amendments to development regulations are proposed, they will be subject to subsequent separate CEQA review pursuant to Guidelines Section 15162 (Subsequent EIRs and Negative Declarations) or Section 15164 (Addendum to an EIR or Negative Declaration).

1.1.3 - Purpose and Authority

This Draft EIR provides a program-level analysis of the environmental effects of the project, to the degree of specificity appropriate, in accordance with CEQA Guidelines Section 15146. This document addresses the potential for significant adverse environmental impacts that may be associated with the approval and implementation of the Napa General Plan Housing Element. It also identifies appropriate and feasible mitigation measures and alternatives that may be adopted to significantly reduce or avoid these impacts.

CEQA requires that an EIR contain, at a minimum, certain specific elements. These elements are contained in this Draft EIR and include:

- Table of Contents
- Introduction
- Executive Summary

- Project Description
- Environmental Setting, Significant Environmental Impacts, and Mitigation Measures
- Cumulative Impacts
- Significant Unavoidable Adverse Impacts
- Alternatives to the Proposed Project
- Growth-Inducing Impacts
- Effects Found Not To Be Significant
- Areas of Known Controversy

1.1.4 - Lead Agency Determination

The City of Napa is designated as the lead agency for the project. CEQA Guidelines Section 15367 defines the lead agency as “. . . the public agency, which has the principal responsibility for carrying out or approving a project.” Other public agencies may use this Draft EIR in the decision-making or permit process and consider the information in this Draft EIR along with other information that may be presented during the CEQA process.

This document was prepared by FirstCarbon Solutions, an environmental consultant. Prior to public review, it was extensively reviewed and evaluated by the City of Napa. This document reflects the independent judgment and analysis of the City of Napa as required by CEQA. Lists of organizations and persons consulted and the report preparation personnel are provided in Sections 8 of this document.

1.2 - Scope of the EIR

The City of Napa issued a Notice of Preparation (NOP) for the project on May 1, 2014, which circulated until May 31, 2014 for the statutory 30-day public review period. The scope of this Draft EIR includes the potential environmental impacts identified in the NOP and issues raised by agencies and the public in response to the NOP. The NOP is contained in Appendix A of this Draft EIR.

One comment letter was received in response to the NOP from the California Department of Fish and Wildlife and is provided in Appendix A of this Draft EIR.

The City of Napa held a scoping meeting on May 22, 2014, summarizing the project and providing the opportunity for comments on the scope of the environmental review process. No comments were made at the meeting.

1.2.1 - Potentially Significant Environmental Issues

The NOP found that the following topical areas may contain potentially significant environmental issues that require further analysis in the EIR. These sections are as follows:

- Air Quality
- Greenhouse Gas Emissions
- Land Use
- Noise
- Population and Housing
- Transportation

In addition, analysis related to potential impacts related to seismic events has been provided under the Geology, Soils, and Seismicity topical area.

1.2.2 - Environmental Issues Determined Not To Be Significant

The NOP identified topical areas that were determined not to be significant. An explanation of why each area is determined not to be significant is provided in Section 7, Effects Found Not To Be Significant. These topical areas are as follows:

- Aesthetics
- Agricultural Resources
- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Public Services and Utilities
- Recreation

In addition, certain subjects within various other topical areas were determined not to be significant and were included in Section 7, Effects Found Not To Be Significant:

- Odor (Section 3.1, Air Quality)
- Habitat or Natural Communities Conservation Plan (Section 3.3, Land Use and Planning)
- Aviation Noise (Section 3.4, Noise)
- Soil Erosion or Topsoil Loss (Section 3.7, Geology, Soils, and Seismicity)
- Unstable Soil (Section 3.7, Geology, Soils, and Seismicity)
- Expansive Soil (Section 3.7, Geology, Soils, and Seismicity)
- Septic and Alternative wastewater Disposal Systems (Section 3.7, Geology, Soils, and Seismicity)

1.3 - Organization of the EIR

This Draft EIR is organized into the following main sections:

- **Section ES: Executive Summary.** This section includes a summary of the proposed project and alternatives to be addressed in the Draft EIR. A brief description of the areas of controversy and issues to be resolved, and overview of the Mitigation Monitoring and Reporting Program, in addition to a table that summarizes the impacts, mitigation measures, and level of significance after mitigation, are also included in this section.
- **Section 1: Introduction.** This section provides an introduction and overview describing the purpose of this Draft EIR, its scope and components, and its review and certification process.
- **Section 2: Project Description.** This section includes a detailed description of the proposed project, including its location, site, and project characteristics. A discussion of the project objectives, intended uses of the Draft EIR, responsible agencies, and approvals that are needed for the proposed project are also provided.
- **Section 3: Environmental Impact Analysis.** This section analyzes the environmental impacts of the proposed project. Impacts are organized into major topic areas. Each topic area

includes a description of the environmental setting, methodology, significance criteria, impacts, mitigation measures, and significance after mitigation. The specific environmental topics that are addressed within Section 3 are as follows:

- **Section 3.1 – Air Quality:** Addresses the potential air quality impacts associated with project implementation, as well as consistency with the Bay Area Air Quality Management District 2005 Ozone Strategy.
- **Section 3.2 – Greenhouse Gas Emissions:** Addresses the project’s emissions of greenhouse gases.
- **Section 3.3 – Land Use and Planning:** Addresses the potential land use impacts associated with division of an established community and consistency with the City of Napa General Plan, Napa Municipal Code.
- **Section 3.4 – Noise:** Addresses the potential noise impacts during construction and at project buildout from mobile and stationary sources. The section also addresses the impact of noise generation on neighboring uses.
- **Section 3.5 – Population and Housing:** Addresses the potential of the project to induce direct or indirect population growth.
- **Section 3.6 – Transportation and Traffic:** Addresses the impacts on the local and regional roadway system, public transportation, bicycle, and pedestrian access.
- **Section 3.7 – Geology, Soils, and Seismicity:** Addresses the potential for impacts related to seismic events.
- **Section 4: Cumulative Impact Analysis.** Addresses the cumulative impacts associated with the project, including the impacts of past, present, and probably future projects.
- **Section 5: Other CEQA Considerations:** This section provides a summary of significant environmental impacts, including unavoidable and growth-inducing impacts. In addition, the proposed project’s energy demand is discussed.
- **Section 6: Alternatives to the Proposed Project:** This section compares the impacts of the proposed project with one alternatives: the No Project Alternative. In addition, one alternative initially considered but rejected from further consideration is discussed.
- **Section 7: Effects Found Not To Be Significant.** This section contains analysis of the topical sections and subjects not addressed in Section 3.
- **Section 8: Persons and Organizations Consulted/List of Preparers:** This section contains a full list of persons and organizations that were consulted during the preparation of this Draft EIR and a list of preparers. In addition, this section contains a full list of the authors who assisted in the preparation of the Draft EIR, by name and affiliation.
- **Section 9: References:** This section contains a full list of references that were used in the preparation of this Draft EIR.
- **Appendices:** This section includes all notices and other procedural documents pertinent to the Draft EIR, as well as all technical material prepared to support the analysis.

1.4 - Documents Incorporated by Reference

As permitted by CEQA Guidelines Section 15150, this Draft EIR has referenced several technical studies, analyses, and previously certified environmental documentation. Information from the documents, which have been incorporated by reference, has been briefly summarized in the appropriate section(s). The documents and other sources that have been used in the preparation of this Draft EIR include but are not limited to:

- Draft General Plan Housing Element (2014)
- Envision Napa 2020, City of Napa General Plan Policy Document (1998, amended 2010)
- City of Napa 2020 General Plan Program EIR (1998) (State Clearinghouse No. 1995033060)
- Downtown Napa Specific Plan EIR (2012, State Clearinghouse No. 2010042043)
- Gasser Master Plan EIR (2006, State Clearinghouse No. 2003032055)
- Housing Element Update Initial Study of Environmental Significance (2009)
- City of Napa Municipal Code

These documents are specifically identified in Section 9, References of this Draft EIR. In accordance with CEQA Guidelines Section 15150(b), the referenced documents and other sources used in the preparation of the Draft EIR are available for review at the address shown in Section 1.6 below.

1.5 - Documents Prepared for the Project

The following technical studies and analyses were prepared for the proposed project:

- Air Quality Analysis, prepared by FirstCarbon Solutions. (The analysis is wholly contained in Section 3.1, Air Quality; modeling data is provided in Appendix B.)
- Greenhouse Gas Analysis, prepared by First Carbon Solutions. (The analysis is wholly contained in Section 3.2, Greenhouse Gas Emissions; modeling data is provided in Appendix B.)
- Noise Analysis, prepared by FirstCarbon Solutions. (The analysis is wholly contained in Section 3.4, Noise; modeling data prepared is provided in Appendix C.)
- Transportation Impact Study, prepared by Kittelson & Associates, Inc. (The analysis is wholly contained in Section 3.5, Transportation and Traffic; modeling data is provided in Appendix D)

1.6 - Review of the Draft EIR

Upon completion of the Draft EIR, the City of Napa filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (Public Resources Code, Section 21161). Concurrent with the NOC, this Draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as all parties requesting a copy of the Draft EIR in accordance with Public Resources Code 21092(b)(3). During the public review period, the Draft EIR, including the technical appendices, is available for review at the City of Napa Community Development Department and the Napa Main Library. The address for each location is provided below:

City of Napa
Community Development Department
1600 First Street
Napa, CA 94559
Hours:
Monday–Friday: 8 a.m. to 5 p.m.

Napa Main Library
580 Coombs Street
Napa, CA 94559
707.253.4241
Hours:
Monday–Thursday: 10 a.m. to 9 p.m.
Friday–Saturday: 10 a.m. to 6 p.m.
Sunday: Closed

Agencies, organizations, and interested parties have the opportunity to comment on the Draft EIR during the 45-day public review period. Written comments on this Draft EIR should be addressed to:

City of Napa
Community Development Department
Planning Division
1600 First Street
Napa, CA 94559
Attn: Ken MacNab, Planning Manager
Phone: 707.257.9530
Fax: 707.257.9522
Email: kmacnab@cityofnapa.org

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. Upon completion of the public review period, written responses to all significant environmental issues raised will be prepared and made available for review by the commenting agencies at least 10 days prior to the public hearing before the City Council on the project, at which the certification of the Final EIR will be considered. Comments received and the responses to comments will be included as part of the record for consideration by decision makers for the project.

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SECTION 2: PROJECT DESCRIPTION

This Environmental Impact Report (EIR) analyzes the potential environmental effects of the adoption and implementation of the City of Napa's 2015–2023 General Plan Housing Element in Napa, California.

2.1 - Background

California Government Code Section 65302(c) mandates that each city shall include a Housing Element in its General Plan. The Housing Element is required to identify and analyze existing and projected housing needs, and include statements of the City's goals, policies, quantified objectives, and scheduled programs for the preservation, improvement, and development of housing. The City, in adopting its Housing Element, must consider economic, environmental, and fiscal factors, as well as community goals as set forth in the General Plan, in compliance with California Government Code Section 65580, et seq. Each jurisdiction within the Bay Area Region, which includes Napa County, must prepare an updated Housing Element for the fifth planning cycle, which covers the 2015–2023 period.

One important aspect of Housing Element updates that normally receives close attention is the identification of housing growth needs and the jurisdiction's capacity to accommodate that growth based on available sites for residential development. This process is referred to as the Regional Housing Needs Assessment (RHNA). At the beginning of each new housing element planning period, the California Department of Housing and Community Development (HCD) determines the amount of new housing needed for each income group in each region of the state, based on expected household growth. In February 2012, HCD determined that the nine-county Bay Area region would need 187,990 additional housing units between January 2014 and October 2022 to accommodate projected household growth.

Each Bay Area city's share of the regional housing need is based on a plan prepared by the Association of Bay Area Governments (ABAG), entitled the Final Regional Housing Needs Plan (RHNP) for the San Francisco Bay Area: 2014–2022, which was adopted in July 2013.

In preparing the RHNP, ABAG balanced state laws that require regional sustainable development with "fair share" components. ABAG directed much of the regional growth to infill locations near transit and jobs and Priority Development Areas (PDAs). Directing growth to these infill areas was a key component in protecting the region's agricultural and natural resources. It also encouraged housing and, in particular, affordable housing in neighborhoods near transit, jobs, and services. However, to make sure that PDAs did not shoulder too much of the responsibility for meeting the region's housing need, each jurisdiction was assigned a minimum number of units to meet 40 percent of its household formation growth, then "fair share" factors were applied that considered a community's past affordable housing construction, 2010 jobs, and transit service. This approach resulted in lower housing need numbers than in prior Housing Element planning periods to all jurisdictions in Napa County, including the City of Napa. The approach is supportive of local goals to protect the County's agricultural resources and to promote efficient use of land in core mixed-use

areas where transit, jobs, and services are nearby. In the City of Napa, the Downtown and Soscol Gateway Mixed Use area is a designated PDA.

The draft Housing Element includes an inventory of 51 vacant and underutilized sites with appropriate zoning that can fully accommodate the share of regional housing growth needs (835 units) allocated to the City of Napa in the RHNP as well as 57 units transferred to the City from the County of Napa. These same 51 sites were identified in the 2009 Housing Element. **No changes to land use designations or development standards are proposed. No specific development projects would be approved in connection with adoption of the draft Housing Element, and all future developments will be subject to CEQA review.**

The draft Housing Element also identifies additional sites beyond the initial 51 that have been identified for future potential housing development. Although not counted towards the RHNA requirement, housing could occur on these additional sites in the future. Note that the project analyzed herein is inclusive of only the initial 51 sites needed to accommodate existing RHNA and County transfer housing units.

In addition to the RHNA, the draft Housing Element includes a variety of programs intended to improve the quality of the City's housing stock, conserve existing neighborhoods, increase housing affordability, and remove potential constraints to housing for lower-income households and persons with special needs. These programs are discussed further in Section 2.3, Project Characteristics, below.

2.2 - Project Location and Setting

2.2.1 - Location

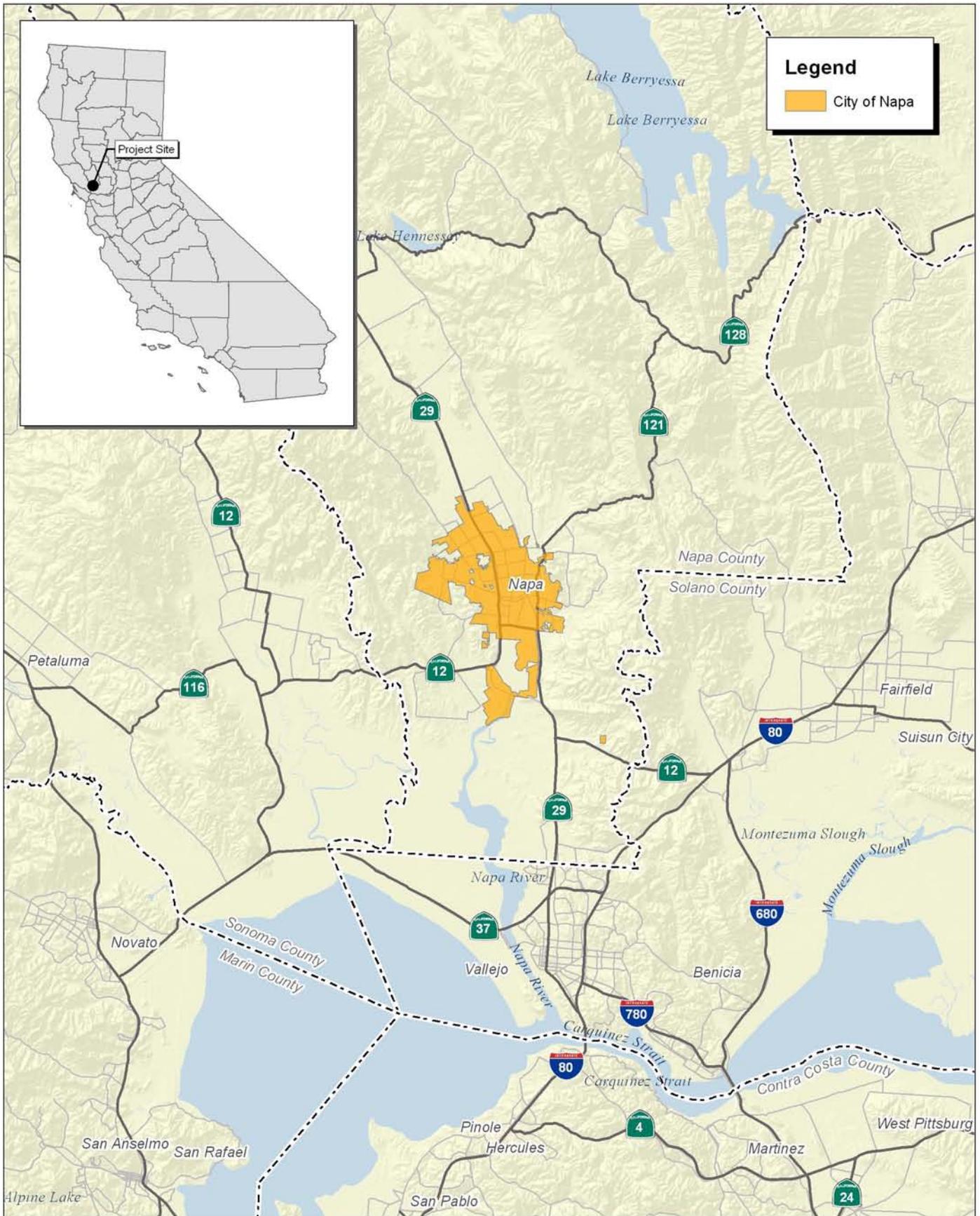
The project is located in the City of Napa, Napa County, California (Exhibit 2-1). The City of Napa is located in southern Napa County and is surrounded by agricultural areas (north), Vaca Mountains (east), San Pablo Bay (south), and Mayacamas Mountains (west) (Exhibit 2-2). The Napa River flows from north to south through the City to San Pablo Bay. State Routes 12, 29, 121, and 221 provide regional access to the City.

2.2.2 - Existing Conditions

The City encompasses over 18 square miles of land developed with a wide range of residential, commercial, industrial, public, and open space land uses. Residential areas vary from semi-rural to dense urban neighborhoods.

Existing Housing

In 2010, the City of Napa had a population of 76,915 persons and just over 30,000 housing units consisting mostly of detached single-family homes, which make up 62 percent of all units. Table 2-1 provides existing housing units by type for the years 2000 and 2010.



Source: Census 2000 Data, The CaSIL, FCS GIS 2014.

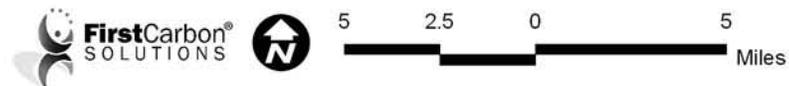
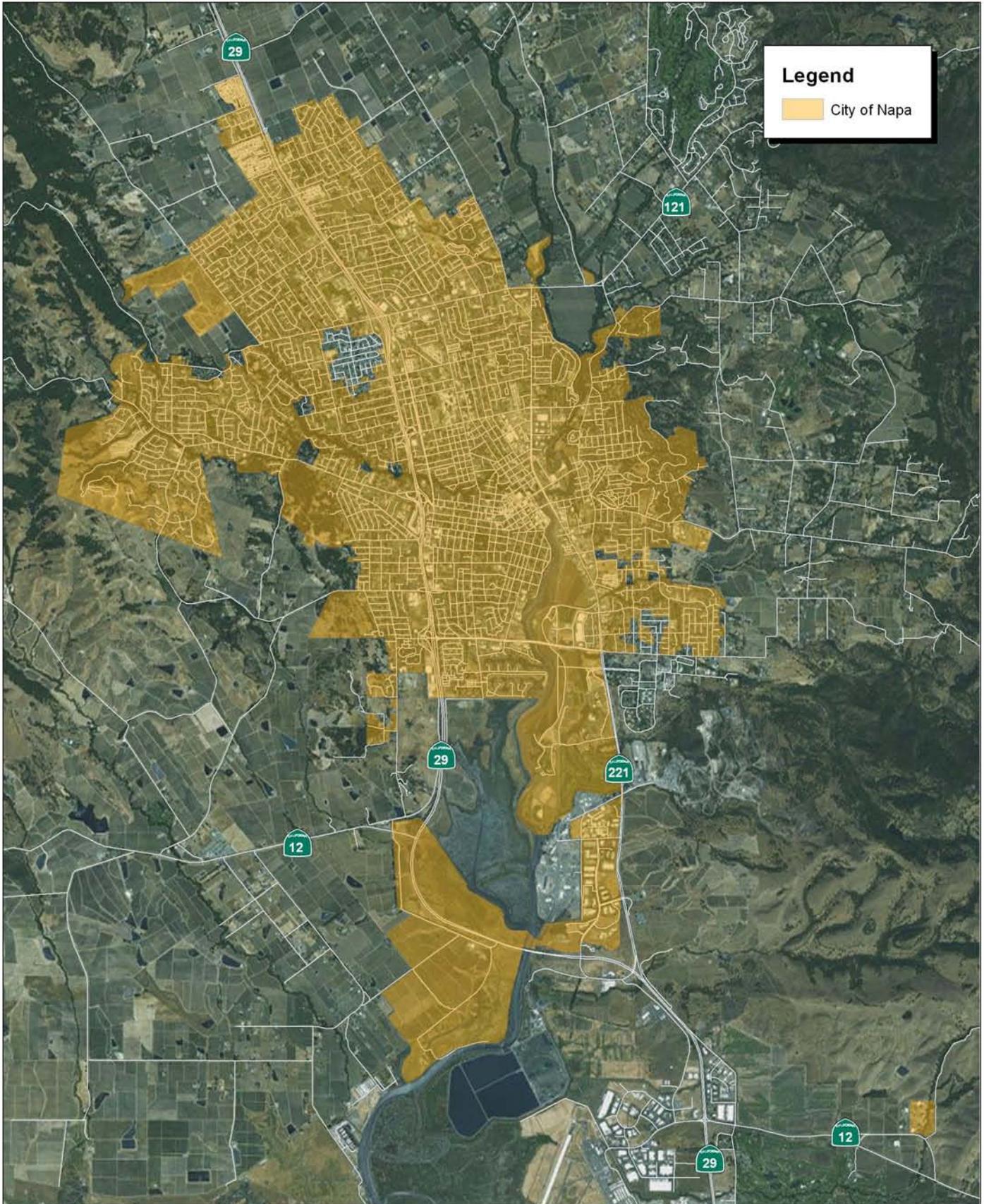


Exhibit 2-1 Regional Location Map

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Source: ESRI Aerial Imagery. Napa County GIS Data, 2013.

Exhibit 2-2
Local Vicinity Map
Aerial Base



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Table 2-1: Housing Units by Type, 2000–2010

Unit Type	2000		2010	
	Number	Percent	Number	Percent
Single-Family	17,342	62%	18,694	62%
Single-Family (attached)	2,059	7%	2,018	7%
2-4 units Multi-Family	2,766	10%	2,949	10%
5+ Units Multi-Family	4,220	15%	5,123	17%
Mobile Home & Other	1,389	5%	1,365	4%
Totals	27,776	100%	30,149	100%

Source: US Census 2000 Decennial Census; State of California Department of Finance E-5 Population and Housing Estimates for Cities, Counties and the State, 2011-13 with 2010 Census Benchmark.

Existing General Plan Housing Element

The existing Housing Element was adopted by the City Council on June 16, 2009 and certified by the HCD on August 13, 2009. The existing Housing Element adequately addressed the 2007–2014 RHNA allocation of 2,024 City units and 82 County units, as shown in Table 2-2.

Table 2-2: Napa’s 2007–2014 Regional Housing Needs Allocation (RHNA)

RHNA	Very low Income	Low Income	Moderate	Above Moderate	Total Units
City Need	466	295	381	882	2,024
County Transfers	23	15	16	28	82
Total City	489	310	397	910	2,106

Source: City of Napa, 2014.

2.3 - Project Characteristics

In accordance with state law, the City of Napa proposes to adopt a General Plan Amendment, updating the General Plan’s Housing Element for the 2015–2023 planning period (draft Housing Element). In updating the Housing Element, the City is not proposing any new housing sites, nor is the City proposing any changes to land use designations or development standards. No specific development projects would be approved in connection with adoption of the draft Housing Element and all future developments will be subject to CEQA review.

2.3.1 - Housing Element Sections

The draft Housing Element includes the following sections:

Section 1 provides an overview of the draft Housing Element, state housing law, the process by which the City prepared the Housing Element, opportunities for public participation, and a review of the draft Housing Element’s consistency with other elements of the General Plan.

Sections 2 and 3 of the draft Housing Element identify the goals and policies that will guide City decisions and activities relating to housing, while **Section 4** describes the program actions intended to implement the goals and policies. **Section 5** of the draft Housing Element presents background information and data regarding demographic characteristics and trends, housing needs and conditions.

Section 6 includes analysis of potential constraints to housing and available resources, as well as a discussion of the City’s share of regional housing needs and potential sites that could accommodate the amount of housing development allocated to the City through ABAG’s RHNP. *It should be emphasized that while state law requires cities to identify sites with sufficient capacity to accommodate the level of development reflected in the RHNP, cities are not required to achieve RHNP objectives, since development is ultimately determined by market conditions and landowner intentions.*

Sections 1, 2, 3, 5, and 6 of the draft Housing Element provide background information and analysis relevant to City housing policies and programs. Updates to these sections do not have the potential to result in changes to development patterns or any physical changes to the environment that would require CEQA review. Any potential environmental impacts that could result from adoption of the draft Housing Element would result from changes to the program actions contained in Section 4 of the element. These programs describe the City’s commitments to future actions and are listed below for each of the City’s five broad housing goals. (Please refer to the draft Housing Element for the full text of these programs. Appendix A of the Housing Element explains the minor program changes.) However, as indicated below, no specific developments or regulatory changes are proposed within Section 4 that would result in environmental impacts.

Goal H1 – Napa is a Vital and Diverse Community

- Program H1.A Adequate Sites
- Program H1.B Future Land Use Planning
- Program H1.C Local Housing Need
- Program H1.D Job Housing Analyses
- Program H1.E Job Impact Analysis
- Program H1.F Housing Sites Study of Surplus Institutional Lands

These programs identify the City’s commitment to broad policy objectives regarding housing needs and jobs-housing balance, and to conduct future studies. No specific developments or regulatory changes are proposed that would result in environmental impacts; therefore, these programs will not be evaluated in the EIR. At such time that specific developments, regulations, or standards are proposed, they will be subject to CEQA review.

Goal H2 – We Have a Variety of Housing Types and Choices

- Program H2.A: Adequate Sites for Multi-Family Use
- Program H2.B: New Rental Units
- Program H2.C: New Ownership Units
- Program H2.D: First Time Homebuyer Programs
- Program H2.E: Identify Potential Acquisition Sites
- Program H2.F: Affordable Housing Overlay Zones
- Program H2.G: Long-Term Affordability Agreements and Monitoring
- Program H2.H: Sustainable Development and Practices
- Program H2.I: Preferences in Affordable Housing
- Program H2.J: Duplex and Triplexes in Other Areas

These programs establish commitments to conduct future studies of potential affordable housing sites, facilitate development and purchase of affordable housing, minimize constraints on affordable housing development, preserve existing affordable housing units, foster sustainable development practices, enhance affordable housing opportunities for Napa residents and employees, and consider a future General Plan amendment to facilitate duplex and triplex development. No specific developments or regulatory changes are proposed that would result in environmental impacts; therefore, these programs will not be evaluated in the EIR. At such time that specific developments, regulations, or standards are proposed, they will be subject to CEQA review.

Goal H3 – We Have Great Neighborhoods Offering a Variety of Nearby Services and Activities

- Program H3.A: Design Review
- Program H3.B: Use of Planned Development Zoning
- Program H3.C: Housing Mix
- Program H3.D: New Second Units
- Program H3.E: Second Unit Standards and Fees
- Program H3.F: Amnesty Program
- Program H3.G: Rental and Owner Rehabilitation Programs
- Program H3.H: Code Enforcement
- Program H3.I: Targeted Neighborhood Improvement
- Program H3.J: Historic Area Process
- Program H3.K: Transportation Element Amendments
- Program H3.L: Capital Improvement Programs for Neighborhood Improvement
- Program H3.M: Parks and Recreation Element Update
- Program H3.N: Retain Federal, State and Locally Subsidized Affordable Units
- Program H3.O: Rental Acquisition and Maintenance
- Program H3.P: Mixed-Use Livability

These programs establish commitments to support high-quality development; promote design flexibility; encourage a mix of housing opportunities including second units; facilitate housing maintenance and rehabilitation; preserve historic homes; ensure the provision of adequate streets, parks, and other infrastructure; retain existing affordable units; and develop guidelines for mixed-use

development. No specific developments or regulatory changes are proposed that would result in environmental impacts; therefore, these programs will not be evaluated in the EIR. At such time that specific developments, regulations, or standards are proposed, they will be subject to CEQA review.

Goal H4 – We Have Housing Linked with Services for Our Special Needs Populations

- Program H4.A: Emergency Shelters
- Program H4.B: Permanent Supportive/Transitional Housing
- Program H4.C: Support Services
- Program H4.D: Rental Assistance for Special Needs
- Program H4.E: Capital Improvements for Non-Profit Facilities
- Program H4.F: Encourage Well Managed New SRO Permanent Housing
- Program H4.G: Rehabilitate Existing Facilities for SROs
- Program H4.H: Coordination with Napa County and Other Actions to Address Farmworker Housing
- Program 4H.I: Housing for Developmentally Disabled Persons

These programs establish commitments to assist emergency shelters, transitional/supportive housing, non-profit facilities, Single Room Occupancy (SRO) housing, and farmworker housing. No specific developments or regulatory changes are proposed that would result in environmental impacts; therefore, these programs will not be evaluated in the EIR. At such time that specific developments, regulations, or standards are proposed, they will be subject to CEQA review. Program H4.F includes a commitment to amend the SRO ordinance; however, no specific changes have been identified at this time, therefore this issue will not be evaluated in the EIR.

Goal H5 – We Have a Strong Sense of Community and Responsibility

- Program H5.A: Universal Design
- Program H5.B: Traffic Impact Overlay
- Program H5.C: Priority Processing
- Program H5.D: Affordable Housing Fees
- Program H5.E: Fair Housing
- Program H5.F: Database Monitoring
- Program H5.G: Legislation
- Program H5.H: Housing Transfer Agreements
- Program H5.I: Cities/County Coordination
- Program H5.J: Community Outreach Efforts
- Program H5.K: Use of Funds
- Program H5.L: Maximize Rental Subsidies
- Program H5.M: Public/Private Partnerships
- Program H5.N: Water and Sewer Service Provider Coordination

These programs establish commitments to support accessible design and fair housing, monitor traffic impact policies and development trends, provide priority processing and fee deferrals for affordable and special needs housing, cooperate with other cities and the County on housing issues, increase community outreach, and seek funding for affordable housing and special needs housing. No

specific developments or regulatory changes are proposed that would result in environmental impacts; therefore, these programs will not be evaluated in the EIR.

2.3.2 - Potential Housing Sites

The draft Housing Element identifies 51 potential housing sites that could accommodate development of 1,750 new housing units, which exceeds the portion of the region’s new housing need of 835 city units and 57 county units that have been allocated by ABAG and county transfer agreements to the City of Napa for the 2015–2023 period, as shown in Table 2-3. In addition, the draft Housing Element identifies additional sites beyond the 51 that could be developed for future residential uses; however, these sites are not currently counted towards the RHNA and are not considered as part of the project analyzed herein.

Table 2-3: Napa’s 2015–2023 Regional Housing Needs Allocation (RHNA)

RHNA	Very Low Income	Low Income	Moderate	Above Moderate	Total Units
City Need	185	106	141	403	835
County Transfers	16	10	10	21	57
Total City	201	116	151	424	892

Note:
 The City of Napa and the County of Napa have entered into two separate transfer agreements for the transfer of 57 housing units from the County to the City.
 Source: Associate of Bay Area Governments, 2013; City of Napa, 2014.

Land suitable for residential development includes vacant residentially zoned sites; vacant non-residentially zoned sites that allow residential uses; underutilized residentially zoned sites capable of being developed at higher density or with greater intensity; and non-residentially zoned sites that can be redeveloped for, and/or rezoned for residential use. As listed in Appendix B of the draft Housing Element and shown in Exhibit 2-3, the current Housing Element identifies sufficient appropriately zoned sites to accommodate the housing needs identified in the RHNA during the 2015–2023 planning period, therefore no changes to land use plans or regulations are needed to provide additional capacity for housing development. Exhibit 2-3 also shows the additional sites beyond the initial 51 that could be developed for future residential uses, but are not considered in the analysis herein.

2.4 - Project Objectives

The objectives of the proposed draft Housing Element are to:

1. Use the remaining land in the City’s Rural Urban Limit (RUL) efficiently to protect our agricultural surroundings;
2. Provide more varied housing types and choices to meet our needs;

3. Create great neighborhoods;
4. Provide housing for our local special needs populations;
5. Establish a long-term sense of community and responsibility;
6. Maintain existing residential land use and zoning designations; and
7. Meet state and regional housing requirements.

2.5 - Intended Uses of the This Draft EIR

This Draft EIR is being prepared by the City of Napa to assess the potential environmental impacts that may arise in connection with actions related to implementation of the proposed project. Pursuant to CEQA Guidelines Section 15367, the City of Napa is the lead agency for the proposed project and has discretionary authority over the proposed project and project approvals.

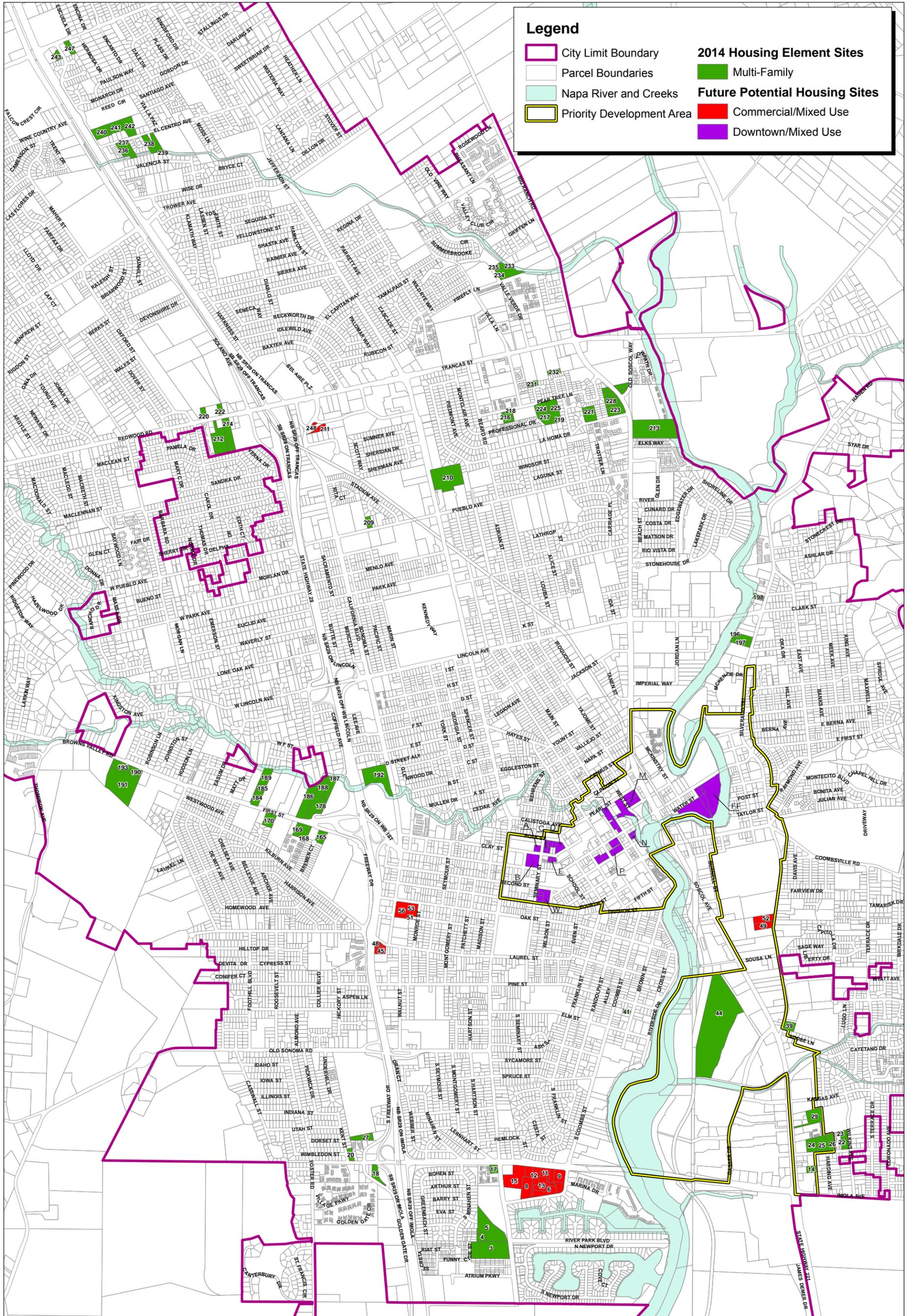
2.5.1 - Discretionary and Ministerial Actions

Discretionary approvals and permits are required by the City of Napa for implementation of the proposed project. Implementation of the project would require the following discretionary approvals and actions, including:

- EIR Certification – City Council
- Adoption of Statement of Overriding Considerations – City Council
- Housing Element Adoption – City Council
- General Plan Amendment – City Council

2.5.2 - Responsible and Trustee Agencies

No other agency is required to approve the Housing Element, but it will be reviewed by the California Department of Housing and Community Development for the purpose of determining whether it complies with the requirements of the Housing Element Law.



Source: City of Napa Planning Department GIS Data.



Exhibit 2-3
2014 Housing Element Sites

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SECTION 3: ENVIRONMENTAL IMPACT ANALYSIS

Organization of Issue Areas

This Draft Environmental Impact Report (Draft EIR) provides analysis of impacts for those environmental topics where it was determined in the Notice of Preparation, or through subsequent analysis that the proposed project could result in “potentially significant impacts.” Sections 3.1 through 3.7 discuss the environmental impacts that may result with approval and implementation of the proposed project.

Issues Addressed in this EIR

The following environmental issues are addressed in Section 3:

- Air Quality
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Population and Housing
- Transportation/Traffic
- Geology, Soils, and Seismicity

Each environmental issue area in Section 3.1 through 3.7 contains a description of the following:

1. The environmental setting as it relates to the specific issue
2. The regulatory framework governing that issue
3. The methodology used in identifying the issues
4. The significance criteria
5. An evaluation of the project-specific impacts and identification of mitigation measures
6. A determination of the level of significance after mitigation measures are implemented

Level of Significance

Determining the severity of project impacts is fundamental to achieving the objectives of CEQA. CEQA Guidelines Section 15091 requires that decision makers mitigate, as completely as is feasible, the significant impacts identified in the Draft EIR. If the EIR identifies any significant unmitigated impacts, CEQA Guidelines Section 15093 requires decision makers in approving a project to adopt a statement of overriding considerations that explains why the benefits of the project outweigh the adverse environmental consequences identified in the EIR.

The level of significance for each impact examined in this Draft EIR was determined by considering the predicted magnitude of the impact against the applicable threshold. Thresholds were developed using criteria from the CEQA Guidelines and checklist; state, federal, and local regulatory schemes; local/regional plans and ordinances; accepted practice; consultation with recognized experts; and other professional opinions.

Format Used for Impact Analysis and Mitigation Measures

The format adopted in this EIR to present the evaluation of impacts is described and illustrated below.

Summary Heading of Impact

Impact AIR-1: An impact summary heading appears immediately preceding the impact description (Summary Heading of Impact in this example). The impact abbreviation identifies the section of the report (AIR for Air Quality in this example) and the sequential order of the impact (1 in this example) within that section. To the right of the impact number is the impact statement, which identifies the potential impact.

Impact Analysis

A narrative analysis follows the impact statement.

Significance Before Mitigation

This section identifies the level of significance of the impact before any mitigation is proposed.

Mitigation Measures

In some cases, following the impact discussion, reference is made to state and federal regulations and agency policies that would fully or partially mitigate the impact. In addition, policies and programs from applicable local land use plans that partially or fully mitigate the impact may be cited.

Project-specific mitigation measures, beyond those contained in other documents, are set off with a summary heading and described using the format presented below:

MM AIR-1a Project-specific mitigation is identified that would reduce the impact to the lowest degree feasible. The mitigation number links the particular mitigation to the impact with which it is associated (AIR-1 in this example); the letter identifies the sequential order of that mitigation for that impact (a in this example).

Significance After Mitigation

This section identifies the resulting level of significance of the impact following mitigation.

Abbreviations used in the mitigation measure numbering are shown in Table 3-1.

Table 3-1: Environmental Issue Abbreviations

Code	Environmental Issue	Code	Environmental Issue
AIR	Air Quality	NOI	Noise
GHG	Greenhouse Gas Emissions	POP	Population and Housing
LUP	Land Use and Planning	TRANS	Transportation/Traffic
GEO	Geology, Soils, and Seismicity	—	

3.1 - Air Quality

This section describes the existing air quality setting and potential effects from adoption and implementation of the draft Housing Element on the site and its surrounding area. The draft Housing Element was evaluated for plan-level impacts from short-term construction and long-term operational emissions. FirstCarbon Solutions performed a qualitative assessment of plan compliance, and air pollutant emissions modeling. The analysis files, including modeling outputs, are provided in Appendix B.

3.1.1 - Existing Conditions

Air Basin

The City of Napa is located in Napa County within the San Francisco Bay Area Air Basin (Air Basin), which is approximately 5,600 square miles in area and consists of nine counties that surround the San Francisco Bay, including all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties; the southwestern portion of Solano County; and the southern portion of Sonoma County. The terrain and geographical location determine the distinctive climate of the Air Basin, as the Air Basin is a coastal plain with connecting valleys and low hills. The local agency with jurisdiction over air quality in the Air Basin is the Bay Area Air Quality Management District (BAAQMD).

Air Pollutants

For reasons described below in the Regulatory Framework section, the criteria pollutants of greatest concern are ozone, PM₁₀, and PM_{2.5}. Carbon monoxide is of less concern in the Air Basin because it is classified as an attainment area. Ozone is not emitted directly into the air, but it is a regional pollutant formed by a photochemical reaction in the atmosphere. Ozone precursors, reactive organic gases (ROG) and oxides of nitrogen (NO_x), react in the atmosphere in the presence of sunlight to form ozone. Ozone irritates the respiratory system, reduces lung function, and can inflame and scar lung tissue. PM is particulate matter in the air that includes a mixture of solids and liquid droplets. Some particles are emitted directly; others are formed in the atmosphere when other pollutants react. PM is so small that the particles can get into the lungs, potentially causing serious health problems. PM₁₀ is 10 microns in diameter, smaller than the width of a human hair. PM_{2.5} is 2.5 microns in diameter and consists of “fine” particles. These fine particles are so small they can be detected only with an electron microscope. Sources of fine particles include all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes.

Table 3.1-1 summarizes the most relevant effects from exposure to air pollutants, the properties, and the sources of the pollutants. National and California ambient air quality standards are also provided.

Toxic Air Contaminants

In addition to the criteria pollutants, discussed above, toxic air contaminants (TACs), also known as hazardous air pollutants (HAPs), are another group of pollutants of concern. A TAC is defined as an

air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts are not expected to occur. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

According to the California Almanac of Emissions and Air Quality, the majority of the estimated health risk from TACs for the State of California can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM) from diesel-fueled engines.

Diesel Particulate Matter

The California Air Resources Board (ARB) identified PM emissions from diesel-fueled engines as a TAC in August 1998 under California's TAC program. The State of California, after a 10-year research program, determined in 1998 that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic (long-term) health risk. The California Office of Environmental Health Hazard Assessment recommends using a 70-year exposure duration for determining residential cancer risks. DPM is emitted from both mobile and stationary sources. According to ARB's 2009 Almanac, on-road diesel-fueled vehicles contribute approximately 38 percent of the statewide total inventory, with an additional 60 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. The remaining DPM inventory was generated by stationary point sources and aggregated stationary sources.

Asbestos

Asbestos is listed as a TAC by ARB and as a HAP by the U. S. Environmental Protection Agency (EPA). Naturally occurring asbestos areas are identified by the type of rock found in the area. Asbestos-containing rocks found in California are ultramafic rocks, including serpentine rocks. Crushing or breaking these rocks, through construction or other means, can release asbestos from fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and, with time, may be linked to such diseases as asbestosis, lung cancer, and mesothelioma.

According to the California Division of Mines and Geology, naturally occurring asbestos has been found in scattered locations within Napa County; however, the nearest known location of naturally occurring asbestos is farther than 5 miles from the Housing Element plan area.

In the initial Asbestos National Emission Standards for Hazardous Air Pollutants rule promulgated in 1973, a distinction was made between building materials that would readily release asbestos fibers when damaged or disturbed (friable) and those materials that were unlikely to result in significant fiber release (non-friable). The EPA has since determined that, severely damaged, otherwise non-

friable materials can also release significant amounts of asbestos fibers. Asbestos has been banned from many building materials under the Toxic Substances Control Act, the Clean Air Act, and the Consumer Product Safety Act. However, not all uses of asbestos for building material are banned.

The 51 sites identified in the draft Housing Element include properties that are already developed and which could be demolished and redeveloped as part of implementation of the Housing Element. Existing buildings that predate 1973 may contain asbestos-containing material, and the disturbance of these structures for future development could release hazardous materials during construction activities, which could pose a risk to human health and the environment.

Table 3.1-1: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), NO _x , and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO _x) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hour	0.070 ppm	0.075 ppm			
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.
	8 Hour	9.0 ppm	9 ppm			
Nitrogen dioxide ^b (NO ₂)	1 Hour	0.18 ppm	0.100 ppm	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contributions to atmospheric discoloration' increased visits to hospital for respiratory illnesses.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides - NO _x (NO, NO ₂ , NO ₃ , N ₂ O, N ₂ O ₃ , N ₂ O ₄ , and N ₂ O ₅). NO _x is a precursor to ozone, PM ₁₀ , and PM _{2.5} formation. NO _x can react with compounds to form nitric acid and related small particles and result in PM related health effects.	NO _x is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. Nitrogen dioxide forms quickly from NO _x emissions. NO ₂ concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			

Table 3.1-1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfur dioxide ^c (SO ₂)	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO _x) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM ₁₀ .	Human caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethylsulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.
	3 Hour	—	0.5 ppm			
	24 Hour	0.04 ppm	0.14 (for certain areas)			
	Annual	—	0.030 ppm (for certain areas)			
Particulate matter (PM ₁₀)	24 hour	50 µg/m ³	150 µg/m ³	- Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. - Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM ₁₀ refers to particulate matter that is between 2.5 and 10 microns in diameter, (1 micron is one-millionth of a meter). PM _{2.5} refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation related sources are from vehicle exhaust and road dust.
	Mean	20 µg/m ³	—			
Particulate matter (PM _{2.5})	24 Hour	—	35 µg/m ³			
	Annual	12 µg/m ³	12.0 µg/m ³			
Visibility reducing particles	8 Hour	See note below ^d				

Table 3.1-1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
						Secondary particles form from reactions in the atmosphere.
Sulfates	24 Hour	25 µg/m ³	—	(a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardio-pulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO ₄ ²⁻ . Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead ^e	30-day	1.5 µg/m ³	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m ³			
	Rolling 3-month average	—	0.15 µg/m ³			
Vinyl chloride ^e	24 Hour	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, ARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.

Table 3.1-1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Hydrogen sulfide (H ₂ S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).
Volatile organic compounds (VOC)		There are no State or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.	Reactive organic gases (ROGs), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM ₁₀ and lower visibility.
Benzene		There are no ambient air quality standards for benzene.		Short-term (acute) exposure of high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, loss of consciousness can occur. Long-term (chronic) occupational exposure of high doses has caused blood disorders, leukemia, and lymphatic cancer.	Benzene is a VOC. It is a clear or colorless light-yellow, volatile, highly flammable liquid with a gasoline-like odor. The EPA has classified benzene as a “Group A” carcinogen.	Benzene is emitted into the air from fuel evaporation, motor vehicle exhaust, tobacco smoke, and from burning oil and coal. Benzene is used as a solvent for paints, inks, oils, waxes, plastic, and rubber. Benzene occurs naturally in gasoline at 1 to 2 percent by volume. The primary route of human exposure is through inhalation.

Table 3.1-1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Diesel particulate matter (diesel PM)		There are no ambient air quality standards for diesel PM.		Some short-term (acute) effects of diesel PM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of diesel PM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	Diesel PM is a source of PM _{2.5} —diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of diesel PM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Notes:

ppm = parts per million (concentration) $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter

^a Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO₂, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

^b To attain the 1-hour nitrogen dioxide 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 parts per billion (0.100 ppm).

^c 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.

^d Visibility reducing particles: 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.

^e 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.

Source of effects, properties, and sources: South Coast Air Quality Management District 2007a; California Environmental Protection Agency 2002; California Air Resources Board 2009; U.S. Environmental Protection Agency 2003, 2009a, 2009b, 2010, 2011a, and 2012; National Toxicology Program 2011a and 2011b. Source of standards: California Air Resources Board 2014.

Local Air Quality

Meteorology acts on the emissions released into the atmosphere to produce pollutant concentrations. These airborne pollutant concentrations are measured throughout California at air quality monitoring sites. ARB operates a statewide network of monitors. Data from this network are supplemented with data collected by local air districts, other public agencies, and private contractors.

The Napa-Jefferson Avenue air quality monitoring station is located within the City of Napa and is located on Jefferson Avenue north of Lincoln Avenue. Table 3.1-2 summarizes the recorded ambient air data at the Napa-Jefferson Avenue station for years 2011 through 2013. As Table 3.1-2 shows, the recorded data show exceedances of the California standards for ozone (O₃) and PM₁₀, and federal standards for O₃ and PM_{2.5}, on one or more occasions from 2011 through 2013. As such, ozone, PM₁₀, and PM_{2.5} are considered criteria pollutants of greatest concern for the Housing Element plan area. No exceedances of either the state or national standards were recorded for nitrogen dioxide (NO₂), carbon monoxide (CO), and other criteria pollutants.

Table 3.1-2: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Parameter	Year		
			2011	2012	2013
Ozone	1 Hour	Max 1 Hour (ppm)	0.083	0.082	0.089
		Days > State Standard (0.09 ppm)	0	0	0
	8 Hour	Max 8 Hour ^a (ppm)	0.070	0.064	0.076
		Days > State Standard (0.07 ppm)	0	0	2
		Days > National Standard (0.075 ppm)	0	0	1
	Carbon monoxide	8 Hour	Max 8 Hour ^a (ppm)	2.05	1.48
Days > State Standard (9.0 ppm)			0	0	0
Days > National Standard (9 ppm)			0	0	0
Nitrogen dioxide	Annual	Annual Average ^a (ppm)	8	7	9
	1 Hour	98 th percentile (ppm)	40.0	37.4	39.5
		Max 1 Hour ^a (ppm)	44	50	43
		Days > State Standard (0.18 ppm)	0	0	0
Inhalable coarse particles (PM ₁₀)	Annual	Annual Average ^a (µg/m ³)	20.2	16.1	18.7
	24 hour	Max 24 Hour ^a (µg/m ³)	55.3	37.7	39.6
		Days > State Standard (50 µg/m ³)	1	0	0
		Days > National Standard (150 µg/m ³)	0	0	0

Table 3.1 2 (cont.): Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Parameter	Year		
			2011	2012	2013
Fine particulate matter (PM _{2.5})	Annual	Annual Average (µg/m ³)	ID	ID	11.7
	24 Hour	Max 24 Hour ^b (µg/m ³)	ID	24.2	35.8
		Days > National Standard (35 µg/m ³)	ID	0	1
Notes and Abbreviations: Exceedances shown in bold > = exceed ppm = parts per million µg/m ³ = micrograms per cubic meter ID = insufficient data ND = no data max = maximum State Standard = California Ambient Air Quality Standard National Standard = National Ambient Air Quality Standard ^a Values are from the California measurement ^b Values are from the National measurement Source: California Air Resources Board 2014.					

Local Sources of Air Pollution

Exhaust gas from motor vehicles that travel along the nearby roadways constitute a major source of ambient air pollutants within the Housing Element plan area. Nearby sources of air pollution include two highways, State Route 29 (SR-29) and Interstate 121, which traverse the City. In addition, portions of the Southern Pacific Railroad track pass through the City. There are also several stationary sources of air pollutants located within and near the project site. There are stationary sources of air pollution within the City that are also within 1,000 feet of the potential housing sites.

Sensitive Receptors

Some population groups such as children, the elderly, and persons with pre-existing respiratory or cardiovascular illness are more sensitive to air pollution than others. BAAQMD defines sensitive receptors as residential areas, hospitals and long-term health care facilities, rehabilitation centers, convalescent centers and retirement homes, elementary schools, daycare centers, playgrounds, athletic facilities and parks. Residential areas are considered sensitive to air pollution because residents, including children and the elderly, tend to be at home for extended periods of time, resulting in sustained exposure to pollutants. Implementation of the Housing Element would result in the construction of new residences, some of which would be located within 1,000 feet of existing stationary sources of air pollution and/or major highways.

Sensitive receptors located in the vicinity of the potential housing sites may also be impacted by fugitive dust and emissions generated by construction activities from implementation of the draft Housing Element.

Schools/Daycare

The elementary schools and childcare facilities within 1,000 feet of the potential housing sites include:

- Stone Bridge School
- Redwood Middle School
- Hopper Creek Montessori
- Harvest Middle School
- River School
- A Place of My Own
- New Life Academy
- First Christian School
- Browns Valley Preschool
- Kolbe Academy & Trinity Prep

Attainment Status

Air basins where federal or state ambient air quality standards are exceeded are referred to as “nonattainment” areas. If standards are met, the area is designated as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered “unclassified.” National nonattainment areas are considered severe, serious, or moderate as a function of deviation from standards.

As shown in Table 3.1-3, the Air Basin is in nonattainment for the national and state 8-hour ozone standards, state 1-hour ozone standard, state 24-hour and annual PM₁₀ standards, and state annual PM_{2.5} standard. This means that the area experiences poor air quality at times.

Table 3.1-3: Air Basin Attainment Status

Pollutant	Averaging Time	State Status	National Status
Ozone	1-hour	Nonattainment	Not Applicable ¹
	8-hour	Nonattainment	Nonattainment ²
Carbon monoxide	1-hour and 8-hour	Attainment	Attainment ³
Nitrogen dioxide	1-hour	Attainment	Unclassified ⁴
	Annual	No state classification	Attainment
Sulfur dioxide ⁵	24-hour	Attainment	Attainment
	1-hour	Attainment	Attainment
	Annual	No state standard	Attainment
PM ₁₀	24-hour	Nonattainment	Unclassified
	Annual	Nonattainment	No federal standard
PM _{2.5}	24-hour	No state standard	Nonattainment ⁶
	Annual	Nonattainment	Attainment

Table 3.1 3 (cont.): Air Basin Attainment Status

Pollutant	Averaging Time	State Status	National Status
<p>Notes:</p> <p>¹ The national 1-hour ozone standard was revoked by EPA on June 15, 2005.</p> <p>² Final designations effective July 20, 2012.</p> <p>³ In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.</p> <p>⁴ To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010).</p> <p>⁵ On June 2, 2010, the EPA established a new 1-hour SO₂ standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030-ppm annual and 0.14-ppm 24-hour SO₂ National Ambient Air Quality Standards however must continue to be used until one year following EPA initial designations of the new 1-hour SO₂ National Ambient Air Quality Standards. EPA was expected to designate areas by June 2012; however, in a February 2013 letter to ARB, EPA indicated that it had extended the deadline to June 2013.</p> <p>⁶ On January 9, 2013, EPA issued a final rule to determine that the Bay Area attains the 24-hour PM_{2.5} national standard. This EPA rule suspends key SIP requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as “nonattainment” for the national 24-hour PM_{2.5} standard until such time as the Air District submits a “redesignation request” and a “maintenance plan” to EPA, and EPA approves the proposed redesignation.</p> <p>Source: Bay Area Air Quality Management District, 2014.</p>			

3.1.2 - Regulatory Setting

Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The EPA regulates at the national level. ARB regulates at the state level, and BAAQMD regulates at the Air Basin level.

Federal and State

The EPA handles global, international, national, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Ambient Air Quality Standards, also known as federal standards or national standards. There are national standards for six common air pollutants, called criteria air pollutants, which were identified from provisions of the Clean Air Act of 1970. The criteria pollutants are:

- Ozone
- Particulate matter (PM₁₀ and PM_{2.5})
- Nitrogen dioxide
- Carbon monoxide (CO)
- Lead
- Sulfur dioxide

The national standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants. Primary national standards are the levels of air quality necessary, with an

adequate margin of safety, to protect public health, as discussed in Ambient Air Quality Standards summary prepared by ARB.

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain national standards. The State Implementation Plan for the State of California is administered by ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. ARB also administers California Ambient Air Quality Standards for the 10 air pollutants designated in the California Clean Air Act. The 10 state air pollutants are the six national standards listed above as well as the following: visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride.

The national and state ambient air quality standards, the most relevant effects, the properties, and sources of the pollutants were previously summarized in Table 3.1-1.

Bay Area Air Quality Management District

BAAQMD regulates air quality in the Air Basin, which consists of the entirety of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties; the western portion of Solano County; and the southern portion of Sonoma County. BAAQMD is responsible for controlling and permitting industrial pollution sources (such as power plants, refineries, and manufacturing operations) and widespread, areawide sources (such as bakeries, dry cleaners, service stations, and commercial paint applicators), and for adopting local air quality plans (AQPs) and rules.

BAAQMD updated their CEQA Air Quality Guidelines (Guidelines) in June 2010 to include new thresholds of significance (2010 Thresholds). BAAQMD's Guidelines were further updated in May 2011. The 2010 Thresholds included new thresholds of significance for plan-level GHGs, and risks and hazards.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that BAAQMD had failed to comply with CEQA when it adopted the 2010 Thresholds. The Court did not determine whether the 2010 Thresholds were valid on their merits, but found that the adoption of the 2010 Thresholds was a project under CEQA. The Court issued a writ of mandate ordering BAAQMD to set aside the 2010 Thresholds and cease dissemination of them until they had complied with CEQA. BAAQMD appealed the Alameda County Superior Court's decision and the case went to the Court of Appeal, First Appellate District. The Court of Appeals has ruled that BAAQMD's adoption of new or revised thresholds of significance are not a 'project' under CEQA and, therefore, are not required to comply with CEQA requirements. The Court of Appeal's decision was appealed to the California Supreme Court, which granted limited review, and the matter is currently pending there.

In view of the trial court's order, which remains in place pending final resolution of the case, the BAAQMD is no longer recommending that the 2010 Thresholds be used as a generally applicable measure of a project's significant air quality impacts. BAAQMD's updated CEQA Guidelines (updated May 2012) removed the 2010 Thresholds, but contains guidance in calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures. Lead agencies may continue to rely on the BAAQMD's 1999 Thresholds of Significance. In addition, it is recommended that Lead Agencies make determinations

regarding the significance of an individual project's air quality impacts based on the substantial evidence in the record. The current and commonly accepted practice is to use the 2010 Thresholds in light of the substantial evidence supporting those thresholds.

Air Quality Plans

The latest AQP for the Air Basin is the 2010 Clean Air Plan, which provides the following:

- Review progress in improving Bay Area air quality to date.
- Establish a control strategy including “all feasible measures” to achieve state ozone standards by the earliest practicable date and reduce transport of ozone precursors to neighboring air basins.
- Address ozone, particulate matter, air toxics, and GHG emissions in a single integrated plan.

AQPs are required to address transportation control measures requirements of the federal Clean Air Act and California Clean Air Act. Transportation control measures are defined as “any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled (VMT), vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions.” The Bay Area has extensive experience with developing and implementing transportation control measures. The first regional plan prepared pursuant to the California Clean Air Act, the 1991 Clean Air Plan, included 23 transportation control measures to meet state planning requirements (state transportation control measures). Plan updates in 1994 and 1997 included revisions to the transportation control measures.

Metropolitan Transportation Commission and Association of Bay Area Governments

In July 2013, the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) jointly approved Plan Bay Area, which includes the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan, and the associated Final EIR. Two of the ten “targets” of Plan Bay Area address the requirements of Senate Bill 375, “The California Sustainable Communities and Climate Protection Act of 2008” (Steinberg).

The first two targets are required by Senate Bill 375, and address the respective goals of climate protection and adequate housing:

- Reduce per-capita carbon dioxide emissions from cars and light-duty trucks by seven percent by 2020 and by 15 percent by 2035.
- House 100 percent of the region's projected 25-year growth by income level (very-low, low, moderate, above-moderate), without displacing current low-income residents.

Portions of the City, specifically the Downtown and Soscol Gateway Mixed Use Area, are identified in Plan Bay Area and associated support documents as a Priority Development Area (PDA). PDAs are existing neighborhoods nominated by local jurisdictions as appropriate places to concentrate future growth that will support the day-to-day needs of residents and workers in a pedestrian-friendly environment served by transit.

A total of four lawsuits have been filed against Plan Bay Area. All four lawsuits were filed with the Alameda County Superior Court and include three suits filed in August 2013 and one suit filed in October 2013. The August lawsuits were filed by the following parties: (1) Bay Area Citizens, (2) Communities for a Better Environment and the Sierra Club, and (3) the Building Industry Association of the Bay Area. The October lawsuit was filed by the Post-Sustainability Institute. In the Post-Sustainability Institute lawsuit, the petitioner claims Plan Bay Area violates private property rights as well as CEQA requirements. Three of the four suits have been settled out of court or were decided in Plan Bay Area's favor at the trial court level:

- In July 2014, the suit filed by Bay Area Citizens in conjunction with the Pacific Legal Foundation failed in Alameda Superior Court. The judge upheld the Plan and EIR.
- In June 2014, MTC and ABAG settled with the Sierra Club and Communities for a Better Environment. Both agencies agreed to disclose to the public progress in getting housing built in city and county PDAs and to explain how the plan measures and accounts for pollution reductions, among other things.
- In March 2014, MTC and ABAG agreed to settle with the Building Industry Association of the Bay Area, committing to monitor regional development patterns and types, along with issuance of building permits. The agencies also committed to a process that invites and discloses public comment when developing new strategies for the 2017 update to Plan Bay Area.

The remaining suit filed by the Post Sustainability Institute is pending in Alameda Superior Court and has yet to be considered.

Local Regulations

City of Napa

General Plan

The City of Napa Envision 2020 General Plan establishes the following goals and policies that are relevant to air quality emissions:

- **Goal NR-5:** To maintain acceptable levels of air quality in Napa.
 - **Policy NR-5.1:** The City shall encourage the use of mass transit, bicycle facilities, and pedestrian walkways in order to decrease use of private vehicles and thereby reduce emissions from mobile sources. *Refer also to transit and bicycle policies, T-51 to 5.17, T-6.1 to 6.11, and T-7.1 and 7.2.*
 - **Policy NR-5.2:** The City shall encourage land use patterns and management practices that conserve air and energy resources, such as mixed-use development and provisions for local-serving commercial uses adjacent to neighborhoods.
 - **Policy NR-5.3:** The City shall promote energy conservation/energy efficiency improvement programs, which reduce energy demand from power-generating facilities which contribute to background levels of regional air emissions.
 - **Policy NR-5.4:** The City shall, during discretionary review, require that development proposals comply with federal and state air quality standards, or make findings that the

project has overriding benefits to the community that outweigh nonattainment of the standards.

- **Policy NR-5.5:** The City shall, during early consultation with project proponents, encourage project design that minimizes direct and indirect air emissions. Projects should consider the following air quality concerns:
 - Land use and design measures to encourage alternatives to the automobile and to conserve energy;
 - Land use and design measures to minimize exposure of sensitive receptors to odors, toxics, and criteria pollutants; and
 - Applicable Bay Area Air Quality management District rules, regulations, and permit requirements.
- **Policy NR-5.6:** The City shall continue and, where appropriate, expand the use of synchronized traffic signals on roadways susceptible to emissions improvement through approach control.

In addition to the policies listed above, Appendix E of the General Plan provides a comprehensive list of policies and programs related to air quality.

3.1.3 - Methodology

The purpose of BAAQMD's Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the Air Basin. The Guidelines contain guidance on how to determine the significance of plan-level actions. Based on substantial evidence in the record, BAAQMD's 2010 Thresholds were utilized for this document. To the degree applicable, the 2011 Guidelines (which contain the 2010 Thresholds) were used in the impact analysis.

BAAQMD's Guidelines provide two different sets of thresholds based on the scope and type of project. Specifically, the Guidelines contain project-level thresholds and plan-level thresholds. The draft Housing Element is considered a plan-level document and, as such, it is appropriate to use the plan-level thresholds.

3.1.4 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to air quality are significant environmental effects, the following questions are analyzed and evaluated.

Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality

standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?

- d) Expose sensitive receptors to substantial pollutant concentrations?
- e) Create objectionable odors affecting a substantial number of people?

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.

3.1.5 - Project Impact Analysis and Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

Air Quality Plan Consistency

Impact AIR-1: Implementation of the Housing Element may conflict with or obstruct implementation of the applicable air quality plan.

Impact Analysis

BAAQMD's CEQA Air Quality Guidelines (Guidelines) indicate that the threshold of significance for operational-related criteria air pollutant and precursor impacts for long-range plans (general plans, redevelopment plans, specific plans, area plans, community plans, transportation plans, congestion management plans, etc.) is consistency with the most recently adopted AQP. All of the following criteria must be satisfied for a proposed plan to be consistent with the AQP, and to result in a less than significant impact.

Proposed plans must show over the planning period of the plan that:

- The plan supports the primary goals of the AQP.
- The plan incorporates current AQP control measures as appropriate to the plan area.
- The projected VMT or vehicle trips increase is less than or equal to projected population increase.

The most recently adopted AQP is the BAAQMD's Clean Air Plan (CAP).

AQP Primary Goals

The 2010 CAP contains three key goals, which are to:

- Protect air quality;
- Protect public health; and
- Protect the climate.

To better define these goals and to measure progress toward their achievement, several performance objectives, summarized below, have been identified for the 2010 CAP.

- **Air Quality:** For air quality performance objectives, the CAP seeks to attain the ambient air quality standards established by the ARB and EPA.
- **Public Health:** Two public health objectives have been identified for the CAP:
 - Reduce PM_{2.5} exposure by 10% by 2015;11 and
 - Reduce diesel PM exposure by 85% by 2020
- **Climate Protection:** The CAP performance objectives, consistent with the State of California's climate protection goals, are to:
 - Reduce emissions of greenhouse gases (GHGs) to 1990 levels by 2020 and 40% below 1990 levels by 2035.

Project Consistency with Air Quality Goal

This goal is related to both localized criteria pollutant impacts and regional criteria pollutant impacts. Localized criteria pollutant impacts are analyzed in Impact AIR-2. Regional criteria pollutant impacts are assessed through the vehicle miles traveled and population increase analysis contained later in this section.

As discussed in Impact AIR-2, future construction activities within the Housing Element sites are estimated to generate construction-emitted fugitive dust as well as criteria pollutants from construction equipment and vehicle exhaust. However, the draft Housing Element would not result in more construction activity than that anticipated under the existing General Plan and Housing Element. Regardless, implementation of Mitigation Measure AIR-2a would reduce the potential fugitive dust impact to less than significant. Implementation of Mitigation Measure AIR-2b would reduce the potential future construction-exhaust impact to less than significant. As such, construction of the Housing Element sites would not hinder regional efforts to attain air quality standards.

Project Consistency with Public Health Goal

The project's potential to affect sensitive receptors is assessed in Impact AIR-4. The draft Housing Element would not result in an increase in density or total number of housing units. The existing General Plan contains policies that minimize dust and air emission impacts from industrial development, as well as promote land use design measures to minimize exposure of sensitive receptors to odors, toxic, and criteria pollutants. As described in Impact AIR-4, implementation of the project has the potential to expose future residents to substantial quantities of TACs. This impact would not be an increase above the risk posed by buildout of the existing General Plan. Regardless, this impact would be reduced to less than significant with implementation of the City's General Plan Policies LU-7.4, NR-5.5, and Mitigation Measure AIR-4.

Project Consistency with Climate Protection Goal

The project's potential to generate a significant greenhouse gas impact is assessed in Section 3.2 of this Draft EIR. Specifically, the project's greenhouse gas impacts are assessed in Impacts GHG-1 and GHG-2. As shown in Impact GHG-1 the project would be less than the BAAQMD's threshold of significance for greenhouse gas impacts. As shown in Impact GHG-2, the project would be consistent with the City of Napa's Sustainability Plan and the ARB's Scoping Plan. Therefore, this impact is less than significant

Summary of Project Consistency with Primary Goals

In summary, the project would be consistent with the primary goals of the AQP after incorporation of Mitigation Measures AIR-2a, AIR-2b, and AIR-4. Therefore, the project would be less than significant with mitigation for this criterion.

Control Measures

The second step to ensure that the project would not conflict with or obstruct the AQP requires the project to be consistent with appropriate AQP control measures. BAAQMD Guidelines state that the most recently adopted AQP should provide the methodology for determining the appropriate control measures that should be included in specific types of long-range plans.

The City's General Plan establishes a number of goals and policies that are consistent with the strategies and control measures identified in the 2010 Clean Air Plan (AQP). These include Goal NR-5 and Policies NR-5.1 through 5.6 and others from the General Plan that call for promoting alternative transit infrastructure and use, complete streets and bicycle infrastructure, reduction of waste, energy conservation, water-efficiency, and water conservation. In addition, Program H2.H and H3.G from the draft Housing Element require energy efficiency improvements and sustainable development practices. The project would be consistent with the applicable measures of the City's General Plan and, as such, would be consistent with the applicable provisions of the 2010 Clean Air Plan. Therefore, the project's impacts would be less than significant for this criterion.

Vehicle Miles Traveled and Population Increase

The third step to ensure that the project would not conflict with or obstruct the AQP is to show that the projected VMT or vehicle trips increase for the project is less than or equal to the projected population increase. BAAQMD Guidelines state that population estimates should be derived from the most recent issue of the Association of Bay Area Governments' Projections publication.

The California Department of Finance estimated the population of the City of Napa to be 78,358 as of January 1, 2014 (California Department of Finance 2014). The Metropolitan Transportation Commission's (MTC) Plan Bay Area Final Forecasting of Jobs, Population and Housing (July 2013) indicates a 31-percent growth in jobs in the City of Napa between 2010 and 2040, and an 11-percent increase in total housing units in the same timeframe.

As stated in the Regulatory Framework of this section, portions of the City are identified in Plan Bay Area and associated support documents as PDAs. Specifically, the area "Downtown Napa & Soscol Gateway Corridor" is identified as a transit neighborhood. As identified in the Final Forecasting of Jobs, Population and Housing, the Downtown Napa & Soscol Gateway Corridor PDA is indicated as having a 24-percent increase in jobs between 2010 and 2040, and a 116-percent increase in housing units in the same timeframe. The draft Housing Element identifies 51 housing sites that, under the existing zoning designations, have the capacity for up to 1,750 dwelling units. Approximately one-third of those dwelling units, or 567 dwelling units, would be located within the Downtown Napa & Soscol Gateway Corridor PDA. According to the Final Forecasting of Jobs, Population and Housing, forecasted housing unit growth in the PDA is 940 units between 2010 and 2040. As such, the City has the ability to meet more than half the forecasted growth by 2023, with 17 years left to meet the full 940 forecasted.

As detailed in Section 2, Project Description, no changes to land use designations or development standards are proposed. Therefore, implementation of the Housing Element Update would not increase the number of residential units or VMT above that previously anticipated by the City’s General Plan. Because the estimated population and VMT of the 2010 CAP is based, in part, on the existing City General Plan land use designations, the draft Housing Element would not increase VMT or population above that anticipated in the 2010 CAP. The draft Housing Element would result in a less than significant impact. The following analysis of VMT is provided for disclosure purposes.

The traffic analysis prepared for the draft Housing Element, as presented in Section 3.6, Transportation and Traffic, includes the draft Housing Element’s expected trip generation. Therefore, the draft Housing Element’s potential VMT was analyzed using CalEEMod default trip lengths for the identified residential uses in an urban location in the County of Napa. CalEEMod model default trip lengths were supplied by BAAQMD. For example, the model default home-to-work trip length for an urban residential project in the County of Napa is 12.4 miles. For comparison, the statewide default home to work trip length for an urban residential project is 10.8 miles.

Table 3.1-4 shows the estimated VMT for the draft Housing Element. Plan Bay Area Target 9b is to decrease automobile VMT per capita by 10 percent from a 2005 average of 22 VMT per capita, which would result in a target average of 19.8 VMT per capita. As shown in Table 3.1-4, the project would produce a rate of 15.07 daily VMT per resident, which is a reduction of 31 percent from the 2005 VMT per capita average. Therefore, the project would meet the VMT reduction goal of the Plan Bay Area.

Table 3.1-4: Vehicle Miles Traveled Data

Scenario	Population ¹	Average Daily Trips	Daily Vehicle Miles Traveled (VMT)	Daily VMT per Trip	Daily VMT per Capita
2020 Development of all draft Housing Element Sites	4,760	11,730	71,740	6.12	15.07
Notes: VMT = vehicle miles traveled ¹ Population estimate based on assumed 2.72 persons per household. Source of population estimate: California Department of Finance, 2014 Source of Trip Data: Kittleson & Associates, 2014. Source of VMT estimates: CalEEMod 2013.					

Conclusion

The project would be consistent with the primary goals of the AQP after incorporation of Mitigation Measures AIR-2a, AIR-2b, and AIR-4. The project would incorporate the applicable AQP control measures through consistency with the City’s General Plan. Finally, the project would not result in an increase in VMT relative to population increase, but would result in a reduction in VMT compared with the 2005 regional average. Therefore, the project would be consistent with the criteria set forth by BAAQMD for determining consistency with the AQP. As such, adoption of the project would not conflict with implementation of the AQP. Impacts would be less than significant with mitigation.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement Mitigation Measure AIR-2a, AIR-2b, and AIR-4.

Level of Significance After Mitigation

Less than significant impact.

Air Quality Standards/Violations

Impact AIR-2:	Implementation of the Housing Element may violate an air quality standard or contribute substantially to an existing or projected air quality violation.
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Impact Analysis

This impact analysis assesses short-term construction air emissions and long-term operational emissions. Approval of the Housing Element does not constitute approval of any housing projects, and will not directly result in any construction. However, development and land use activities contemplated by the Housing Element would include construction and operational air emissions of criteria pollutants.

Construction Emissions

The BAAQMD does not provide construction-related significance thresholds for plan-level analysis. For the purposes of a conservative analysis and disclosure, the BAAQMD's project-level thresholds are utilized to assess construction-generated impacts. Construction activities associated with future development within the Housing Element sites would include grading, demolition, building construction, and paving. Generally, the most substantial air pollutant emissions would be dust generated from site grading. If uncontrolled, these emissions could lead to both health and nuisance impacts. Future construction activities would also temporarily create emissions of equipment exhaust and other air contaminants.

BAAQMD does not recommend a numerical threshold for fugitive, dust-related particulate matter emissions. Instead, BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented. If all appropriate emissions control measures recommended by BAAQMD are implemented for a project, then fugitive dust emissions during construction are not considered significant. Therefore, incorporation of Mitigation Measure AIR-2a, which requires implementation of fugitive dust reduction measures, would reduce this impact would be less than significant. Note that implementation of General Plan Policy NR-5.5 encourages project design that minimizes direct air emissions. Therefore, application of Mitigation Measure AIR-2a constitutes enhanced enforcement of General Plan Policy NR-5.5.

Off-road construction equipment is a large source of NO_x and DPM in the Bay Area. NO_x is an ozone precursor pollutant that contributes to regional ozone formation. Diesel particulate matter contributes to elevated PM₁₀ and PM_{2.5} concentrations and is a TAC. The BAAQMD's Guidelines do not have thresholds for plan-level construction-generated ROG, NO_x, PM₁₀ exhaust, and PM_{2.5}

exhaust. However, BAAQMD's 2010 Thresholds do have numerical thresholds for project-level ROG, NO_x, PM₁₀ exhaust, and PM_{2.5} exhaust, and future development under the draft Housing Element would use BAAQMD's CEQA Guidelines as the basis for assessing impacts. This document sets forth guidance for evaluating and mitigating construction-related ROG, NO_x, PM₁₀ exhaust, and PM_{2.5} emissions for project-level analysis. Preliminary project-level screening for construction-related criteria pollutants involves meeting criteria for screening size, implementing all basic construction mitigation measures, and exclusion of the following construction related activities:

- Demolition activities inconsistent with BAAQMD Regulation 11, Rule 2: Asbestos Demolition, Renovation and Manufacturing
- Simultaneous occurrence of more than two construction phases (e.g., paving and building construction would occur simultaneously)
- Simultaneous construction of more than one land use type
- Extensive site preparation
- Extensive material transport (e.g. greater than 10,000 cubic yards of soil import or export)

Mitigation Measure AIR-2b is proposed requiring implementation of emissions control measures for off-road construction equipment. The implementation of this mitigation measure would reduce this impact to a level of less than significant.

Operational Emissions

BAAQMD CEQA Guidelines indicate that the plan-level threshold for operational-related criteria air pollutant and precursor impacts is consistency with the most recently adopted AQP, in this case, the BAAQMDS 2010 CAP. This is demonstrated by showing that the plan is consistent with the primary goals of the AQP, incorporates current AQP control measures, and that the rate of increase in VMT within the plan area is equal to or lower than the rate of increase in population projected for the proposed plan.

The analysis of AQP consistency provided in Impact AIR-1 demonstrates compliance with the first criteria after incorporation of Mitigation Measures AIR-2a, AIR-2b and AIR-4. The identified mitigation measures are for future construction-generated dust, criteria pollutants and ozone precursors, and potential exposure to toxic air contaminants, and no mitigation is required to reduce future operation-generated criteria pollutants or ozone precursors. The City's General Plan establishes a number of goals and policies that are consistent with the strategies and control measures identified in the 2010 Clean Air Plan (AQP). The project would be consistent with the applicable control measures of the City's General Plan and, as such, would be consistent with the applicable provisions of the 2010 Clean Air Plan. The project would not result in an increase in population or VMT above what would occur under buildout of the existing General Plan. Furthermore, the population accommodated by the project would result in lower per capita VMT than the Plan Bay Area's VMT reduction goal. The project would meet BAAQMD significance criteria and would not substantially contribute to an existing violation of the ozone and particulate standards. As such, impacts would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM AIR-2a To reduce fugitive dust (PM₁₀) emissions from construction activity, the following measures or measures recommended by BAAQMD at the time of construction shall be implemented, including but not limited to:

- Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times.
- Cover all hauling trucks or maintain at least 2 feet of freeboard.
- Pave, apply water at least twice daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads.
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (i.e., previously graded areas that are inactive for 10 days or more).
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.
- Limit traffic speeds on any unpaved roads to 15 miles per hour.
- Replant vegetation in disturbed areas as quickly as possible.
- Suspend construction activities that cause visible dust plumes to extend beyond the construction site.
- Post a publicly visible sign or signs with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

MM AIR-2b To reduce exhaust emissions from off-road construction equipment, the following measures or measures recommended by BAAQMD at the time of construction shall be implemented, including but not limited to:

- The developer or contractor shall provide a plan for approval by the City or BAAQMD demonstrating that heavy-duty off-road vehicles to be used in the construction project, including owned, leased, and/or subcontractor vehicles, shall meet or exceed United States Environmental Protection Agency Tier 3 off-road emissions standards when more than five pieces of off-road diesel equipment with a horsepower greater than 70 per piece of equipment would operate on one day. The plan shall include quantification of air pollutant emissions demonstrating that the project would not exceed the Bay Area Air Quality Management District's thresholds of significance for project construction.
- Clear signage at all construction sites will be posted indicating that diesel equipment standing idle for more than five minutes shall be turned off. This

would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were onsite or adjacent to the construction site.

- The contractor shall install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g., compressors).
- Properly tune and maintain equipment for low emissions.

Level of Significance After Mitigation

Less than significant impact.

Cumulative Increase in a Nonattainment Criteria Pollutant

Impact AIR-3: Implementation of the Housing Element would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).

Impact Analysis

Adoption of the Housing Element does not constitute approval of any housing projects, and will not directly result in any construction. However, development and land use activities contemplated by the Housing Element would include construction and operational air emissions of criteria pollutants.

According to the checklist in the CEQA Guidelines, a project would create a significant impact if it would “result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).”

The BAAQMD’s plan-level threshold for project operations is applied in this section. Note that there is a fundamental divergence in how operational impacts are characterized and assessed under a plan-level analysis compared to a project-level analysis. Specifically, plan-level analysis relies on consistency with current air quality plan control measures, and an assessment of VMT to population increase. In contrast, project-level analysis relies on emissions estimation and comparison to a discrete bright-line threshold.

Therefore, it is possible for a plan-level analysis to demonstrate that the plan would generate a less than significant impact for criteria air pollutants and ozone precursors, but for subsequent project proposals consistent with said plan to demonstrate a potentially significant quantity of operational emissions. As such, a project-level emissions quantification is also provided within this impact section for the purposes of disclosure, and to allow appropriate CEQA tiering coverage for future development consistent with the draft Housing Element.

Section 15130(b) of the CEQA Guidelines states, in relevant part, the following:

The following elements are necessary to provide an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable

future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts incorporates a summary of projections. Specifically, the analysis relies on consistency with the applicable AQP as the source of the summary of projections. Because BAAQMD evaluated the entire Air Basin when it developed the Clean Air Plan (the applicable AQP for the project area), the Clean Air Plan contains the summary of projections for the Air Basin, as further described below.

The geographic scope for cumulative criteria pollution from air quality impacts is the Air Basin, because that is the area in which the air pollutants generated by the sources within the Air Basin circulate and are often trapped. BAAQMD is required to prepare and maintain a Clean Air Plan and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While BAAQMD does not have direct authority over land use decisions, it recognized that changes in land use and circulation planning are necessary to maintain clean air. BAAQMD evaluated land uses and projections of air pollutant emission within the entire Air Basin when it developed the Clean Air Plan.

According to the analysis contained in Impact AIR-1, the project is consistent with the Clean Air Plan after incorporation of Mitigation Measures AIR-2a, AIR-2b and AIR-4. The identified mitigation measures are for future construction-generated dust, criteria pollutants and ozone precursors, and potential exposure to toxic air contaminants, and no mitigation is required to reduce future operation-generated criteria pollutants or ozone precursors.

The Air Basin is in nonattainment for ozone, PM₁₀, and PM_{2.5}, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals such as the elderly, children, and the sick. Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects as described in Table 3.1-1. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects.

The implementation of the Housing Element would be consistent with the 2010 Clean Air Plan, as its VMT and population would not increase above what would occur under the current General Plan. Finally, the project would be consistent with the air pollution reduction and control strategies outlined in the 2010 Clean Air Plan. As such, implementation of the Housing Element would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment. Impacts would be less than significant.

Project-level Quantification

As noted in the impact assessment provided above, the significance determination for the draft Housing Element relies on BAAQMD's plan-level thresholds, which include consistency with the 2010 CAP and a VMT to population increase analysis. For the purposes of disclosure, however, operational emissions associated with future development of the Housing Element sites were quantified using CalEEMod version 2013.2.2. The emissions estimate utilized trip generation prepared by Kittleson & Associates (Section 3.6, Transportation and Traffic). The operational emissions output is provided in Table 3.1-5. The detailed CalEEMod output is available in Appendix B to this document. As shown in the table, operation of each individual identified housing site would be less than the BAAQMD's project-level threshold.

Table 3.1-5: Operational Emissions

Housing Element Site	Annual Emissions (tons)			
	ROG	NO _x	PM ₁₀	PM _{2.5}
Alta Heights	0.44	0.50	0.34	0.10
Beard (B 77)	0.78	0.78	0.52	0.15
Beard (B81)	1.30	1.32	0.87	0.25
Beard (B 84 and B86)	0.24	0.20	0.13	0.04
Central Napa	1.61	1.66	1.10	0.32
Linda Vista	0.12	0.12	0.08	0.02
Pueblo	0.46	0.48	0.32	0.09
Gasser Master Plan	4.08	3.94	2.64	0.77
Terrace Shurtleff	0.93	0.96	0.65	0.19
Vintage (V 21, V 24, and V 37)	1.34	1.35	0.91	0.26
Vintage (V 33H)	0.53	0.59	0.40	0.12
Westwood (W 113, W 114, and W 132)	2.76	2.69	1.81	0.52
Westwood (W126 and MU 475)	0.41	0.40	0.27	0.08
Project-level Significance Threshold	10	10	15	10
Notes: ROG = reactive organic gases NO _x = nitrogen oxides PM ₁₀ and PM _{2.5} = particulate matter Source of emissions: Appendix B: CalEEMod Output. Source of thresholds: Bay Area Air Quality Management District, 2010.				

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

Sensitive Receptors

Impact AIR-4: Implementation of the Housing Element may expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis

Sensitive receptors are land uses that house sensitive populations (children, the elderly, and the infirm) for sustain periods. Examples of land uses include residential areas, schools, hospitals, convalescent facilities, and day care centers. TACs are the air pollutants of most concern as it relates to sensitive receptors, as they have the greatest potential to pose a carcinogenic and non-carcinogenic (such as asthma and bronchitis) hazard to human health. Based on the types of land use activities present in the project area, DPM is the TAC most likely to occur locally. DPM is emitted by vehicles with diesel engines (trucks, heavy equipment, etc.). BAAQMD's guidance indicates that lead agencies should consider the extent to which a new TAC source would increase risk levels, hazard index, or PM_{2.5} concentrations at nearby receptors. Specifically, the 2010 Thresholds recommend:

1. An overlay zone around existing and planned sources of TACs.
2. Overlay zones of at least 500 feet from all freeways and high volume roadways.

For project-level analysis, BAAQMD provides three tools for use in screening potential sources of TACs. These tools are:

- **Surface Street Screening Tables.** BAAQMD pre-calculated potential cancer risk and PM_{2.5} concentration increases for each county within their jurisdiction. The look-up tables are used for roadways that meet BAAQMD's "major roadway" criteria of 10,000 vehicles or 1,000 trucks per day. Risks are assessed by roadway volume, roadway direction, and distance to sensitive receptor.
- **Freeway Screening Analysis Tool.** BAAQMD prepared a Google Earth file that contains pre-estimated cancer risk, hazard index, and PM_{2.5} concentration increases for highways within the Bay Area. Risks are provided by roadway link and are estimated based on elevation and distance to the sensitive receptor.
- **Stationary Source Risk and Hazard Screening Tool.** BAAQMD prepared a Google Earth file that contains the locations of all stationary sources within the Bay Area that have BAAQMD permits. For each emissions source, BAAQMD provides conservative cancer risk and PM_{2.5} concentration increase values.

BAAQMD recommends the use of these three tools in a screening process for project-level analysis to identify whether further environmental review of potential TAC or PM_{2.5} concentration risk for a project is warranted. Specifically, emissions sources within 1,000 feet of a proposed project boundary should be evaluated.

For project-level analysis, BAAQMD specifies both individual and cumulative-level thresholds of significance for risks and hazards. For projects that are considered new sources of TACs or PM_{2.5} (such as stationary sources, industrial sources, or roadway projects), it is generally appropriate to use both the project-level and cumulative-level thresholds because the project-level threshold identifies said project's individual contribution to risk, while the cumulative threshold assesses said project's cumulative contribution to risk. However, for projects that consist of new receptors, it is generally appropriate to only use the cumulative-level threshold because the project itself is not a source of TACs and, thus, the individual project-level threshold is not relevant. The cumulative risk threshold accounts for all potential sources of TACs and PM_{2.5} in proximity to new receptors. Because the draft Housing Element is related to residential development, and residential development is not considered a source of TACs, this analysis is focused to the cumulative impact of nearby sources of TACs to the Housing Element sites.

As stated within the Environmental Setting, nearby sources of air pollution include two state routes, SR-29 and SR-221, which transect the City from north to south. In addition, the Southern Pacific Railroad passes through the City. There are also several stationary sources located within and near the City. There are stationary sources of air pollution within 1,000 feet of some Housing Element sites. Therefore, the project may expose future residents to TACs. Table 3.1-6 provides a preliminary screening of potential sources of TACs within 1,000 feet of the Housing Element sites. Sources of TACs may change by the time that specific development is proposed. Therefore, Mitigation Measure AIR-4 is required to reduce the potential TACs impact to less than significant.

Table 3.1-6: Toxic Air Contaminant Screening

Housing Element Site Inventory Number	Site Number	Sources of TACs within 1,000 feet (Address)
Alta Heights		
1	196, 197	Napa Shell #135640 - Danville Petroleum (300 Lincoln Ave) Richard Pierce Funeral Service (1660 Silverado Trail) North Bay Plywood (510 North Bay Drive) Lockshaws Custom Finishing (562 Northbay Drive)
2	198	Napa Shell #135640 - Danville Petroleum (300 Lincoln Ave) Richard Pierce Funeral Service (1660 Silverado Trail)
Beard (B 77)		
3	223	Napa Sanitation District – Soscol
4	227, 230	Joe's Chevron (630 Trancas Street)
5	226, 228, 229	Joe's Chevron (630 Trancas Street)
Beard (B81)		
6	213	None
7	215, 218	Queen of the Valley Medical Center (1000 Trancas Street)

Table 3.1 6 (cont.): Toxic Air Contaminant Screening

Housing Element Site Inventory Number	Site Number	Sources of TACs within 1,000 feet (Address)
8	216	Queen of the Valley Medical Center (1000 Trancas Street)
9	217, 219, 224, 225	Queen of the Valley Medical Center (1000 Trancas Street)
10	221	None
11	231	Queen of the Valley Medical Center (1000 Trancas Street)
12	232	Queen of the Valley Medical Center (1000 Trancas Street)
Beard (B 84 and B86)		
13	209	CertainTeed Gypsum and Ceiling Mfg, Inc. (3222 California Boulevard) Minuteman Press (3148 Jefferson Street)
14	210	Minuteman Press (3148 Jefferson Street) Jefferson Car Wash, Inc. (3080 Jefferson Street) Dept. of Transportation (3161 Jefferson Street) Conserv Fuel (3001 Jefferson Street) Napa Linen Service (2820 Jefferson Street)
Central Napa		
15	192	SR-29
16	17	SR-121 USA Gas #68172 (1800 West Imola Avenue) Ishaq Trading Corp (1775 Imola Avenue)
17	4, 5	SR-121 USA Gas #68172 (1800 West Imola Avenue) Ishaq Trading Corp (1775 Imola Avenue) Napa Sanitation District (787 South Jefferson Street)
18	3	Napa Sanitation District (787 South Jefferson Street)
19	41	None
Linda Vista		
20	220, 222	SR-29 Southern Pacific Railroad Redwood Rd Chevron (2008 Redwood)
Pueblo		
21	212	Redwood Rd Chevron (2008 Redwood)
22	214	SR-29 Southern Pacific Railroad Redwood Rd Chevron (2008 Redwood)
Gasser Master Plan		
23	44	SR-121 Southern Pacific Railroad

Table 3.1 6 (cont.): Toxic Air Contaminant Screening

Housing Element Site Inventory Number	Site Number	Sources of TACs within 1,000 feet (Address)
		JAV Auto Body (346 Soscol Avenue) North Coast Laminates (775 8 th Street) Soscol Auto Body Inc. (637 Soscol Avenue) Napa Valley Wine Train (800 8 th Street)
Terrace Shurtleff		
24	39	SR-121 Napa Nissan Inc. (510 Soscol Avenue) Jenson Motor Center (495 Soscol Avenue) JAV Auto Body (346 Soscol Avenue)
25	22	SR-121
26	24	SR-121 Napa Ford-Lincoln-Mercury (300 Soscol Avenue) Napa Chrysler Volvo Inc. (333 Soscol Avenue)
27	25, 26	SR-121 Napa Ford-Lincoln-Mercury (300 Soscol Avenue) Napa Chrysler Volvo Inc. (333 Soscol Avenue) Soscol Avenue Shell (110 Soscol Avenue) Chevron Inc. #9-4820 (800 Imola Avenue)
28	14	SR-121 Target Corporation #1026, 205 Soscol Avenue Soscol Avenue Shell (110 Soscol Avenue) Arco Facility #2106 (198 Soscol Street) Chevron Inc. #9-4820 (800 Imola Avenue)
29	23	SR-121 Napa Ford-Lincoln-Mercury (300 Soscol Avenue)
30	29	SR-121 Napa Ford-Lincoln-Mercury (300 Soscol Avenue) Napa Chrysler Volvo Inc. (333 Soscol Avenue) JAV Auto Body (346 Soscol Avenue)
Vintage (V 21, V 24, and V 37)		
31	243	SR-29 Salvador Chevron (1895 Salvador Ave)
32	247	SR-29 Salvador Chevron (1895 Salvador Ave)
33	236	SR-29
34	237	SR-29
35	238	SR-29
36	239	SR-29
37	240, 241	SR-29

Table 3.1 6 (cont.): Toxic Air Contaminant Screening

Housing Element Site Inventory Number	Site Number	Sources of TACs within 1,000 feet (Address)
38	242	SR-29
Vintage (V 33H)		
39	233, 234, 235	None
Westwood (W 113, W 114, and W 132)		
40	185, 189	Browns Valley Chevron (2896 1 st Street)
41	178, 187	SR-29
42	184	Browns Valley Chevron (2896 1 st Street)
43	186	SR-29
44	188	SR-29
45	190, 191, 193, 194	None
46	165	SR-29
47	170	Browns Valley Chevron (2896 1 st Street)
48	168, 169	SR-29
Westwood (W126 and MU 475)		
49	18	SR-29 California Highway Patrol (975 Golden Gate Dr) KAFV, Inc. (2442 West Imola Avenue)
50	20	SR-29 California Highway Patrol (975 Golden Gate Dr) KAFV, Inc. (2442 West Imola Avenue)
51	27	SR-29 KAFV, Inc. (2442 West Imola Avenue)
Notes: ROG = reactive organic gases NO _x = nitrogen oxides PM ₁₀ and PM _{2.5} = particulate matter Source of stationary source locations: Bay Area Air Quality Management District, 2012.		

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM AIR-4 Prior to issuance of future building permits for any sensitive receptor use (i.e., residential uses) that would be developed pursuant to the Housing Element, the applicant shall prepare and submit either:

1. A risk screening assessment to the City of Napa that demonstrates the cumulative risk to the receptor would be less than the Bay Air Quality Management District's (BAAQMD) cumulative risk threshold (2010 Thresholds).

or,
2. A Health Risk Analysis that quantifies the potential risk to onsite receptors and, if necessary, identifies project-specific risk reduction measures. The Health Risk Analysis shall be prepared consistent with BAAQMD guidance and must demonstrate the risk would be less than the BAAQMD cumulative risk threshold (2010 Thresholds). Examples of project-specific risk reduction measures include the use of air filtration with a minimum efficiency reporting value (MERV) of 13 or greater. All project-specific risk reduction measures identified in the Health Risk Analysis shall be incorporated into the development.

Level of Significance After Mitigation

Less than significant impact.

Odors

Impact AIR-5: Implementation of the Housing Element would not result in objectionable odors affecting a substantial number of people.

Impact Analysis

BAAQMD CEQA Air Quality Guidelines (Guidelines) state that for plans to have a less than significant impact, the location of odors should be identified, and policies included to minimize the impacts of existing or planned sources of odors must be identified.

BAAQMD established screening levels for project-level evaluation for sensitive receptors proposed to be located near different types of utilities, industrial uses, or other facilities known to generate odor. The lead agency should employ this guidance when evaluating whether a proposed plan includes adequate distances between odor sources and sensitive receptors.

BAAQMD has project-level odor screening distances in its Guidelines. These screening distances include distances for repair and paint shops, wastewater treatment plants, sanitary landfills, and other typical sources of odor. The Housing Element plan area is not within the screening distance of a wastewater treatment plant or dairy. However, the Housing Element plan area contains a variety of industrial land uses. For projects within the screening distances, BAAQMD has the following project-level threshold:

An odor source with five or more confirmed complaints per year averaged over three years is considered to have a significant impact on receptors within the screening distance shown in Table 3-3 [of the BAAQMD's guidance].

However, the BAAQMD does not recommend application of the project-level threshold for a plan-level analysis.

Typical sources of odor identified by BAAQMD include: wastewater treatment plants, wastewater pumping facilities, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, painting/coating operations, rendering plants, coffee roasters, food processing facilities, confined animal facility/feedlot/dairy, green waste and recycling operations, and metal smelting plants.

The draft Housing Element utilizes the existing General Plan designations to identify potential residential development sites within the City. However, the Housing Element would not increase the allowable intensity of the existing residential sites.

The Napa Sanitation District's Soscol Water Recycling Facility, a wastewater treatment plant, is located approximately 3 miles south of the southernmost draft Housing Element site. In addition, solid waste from the City is taken to the Devlin Road Transfer Station in American Canyon, more than 5 miles south of the southernmost draft Housing Element site. There are no confined animal facilities, feedlots, or dairies in the vicinity of the City. Therefore, the draft Housing Element would not expose receptors to substantial odor from those land uses.

A review of land uses within the City indicates existing sources of odor, such as auto body shops (which having painting/coating operations), are present within the BAAQMD's screening distance of the draft Housing Element Sites. BAAQMD was contacted to determine an odor complaint history for the Housing Element plan area. However, as indicated by BAAQMD, the records system does not allow for a buffer or radius analysis. In addition, it is unknown when the Housing Element Sites would be developed.

Implementation of General Plan Policies LU-7.4 and NR-5.5 would minimize odor impacts. General Plan Policy LU-7.4 minimizes dust, air emissions and other negative effects (including odor) from industrial development (typically sources of odors). General Plan Policy NR-5.5 requires consultation with project proponents to assess and address air pollutant effects. Policy NR-5.5 also promotes project design that minimizes exposure of sensitive receptors to odors (as well as TACs and criteria pollutants). Therefore, existing General Plan policies address and mitigate potential odor impacts, and the draft Housing Element would not result in objectionable odors affecting a substantial number of people. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

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3.2 - Greenhouse Gas Emissions

This section describes the existing greenhouse gas (GHG) emissions setting and potential effects from adoption and implementation of the draft Housing Element on the project area and its surroundings. Greenhouse gas impacts were evaluated for plan-level impacts from short-term construction and long-term operational emissions of the project. FirstCarbon Solutions (FCS) performed greenhouse gas analyses for the proposed project, which includes qualitative assessment of plan compliance, and greenhouse gas emissions modeling. The analysis files, including modeling outputs, are provided in Appendix B.

3.2.1 - Existing Conditions

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. Without the natural heat trapping effect of GHGs, the earth's surface would be about 34 degrees Celsius (°C) cooler (about 61 degrees Fahrenheit (°F) cooler). However, it is believed that emissions from human activities have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Increased GHGs results in an increased greenhouse effect and could result in changes to the climate. The United Nations Intergovernmental Panel on Climate Change constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The Intergovernmental Panel on Climate Change predicted that global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1°C to 6.4°C (2.0°F to 11.5°F). Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, carbon dioxide.

Individual GHG compounds have varying global warming potential and atmospheric lifetimes. Carbon dioxide, the reference gas for global warming potential, has a global warming potential of one. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent metric. Methane's warming potential of 21 indicates that methane has a 21 times greater warming affect than carbon dioxide on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual GHG multiplied by its global warming potential.

GHGs as defined by Assembly Bill (AB) 32 include the gases shown in Table 3.2-1.

Table 3.2-1: Description of Major Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless GHG. It has a lifetime of 114 years. Its global warming potential is 310.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 21.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.
Carbon dioxide	Carbon dioxide (CO ₂) is an odorless, colorless, natural GHG. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Hydrofluorocarbons	Hydrofluorocarbons are a group of GHGs containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 6,500 to 9,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Sources: Compiled from a variety of sources, primarily Intergovernmental Panel on Climate Change 2007a and 2007b.		

Greenhouse Gas Emissions Inventory and Trends

Emissions of GHGs worldwide were approximately 49,000 million metric tons of carbon dioxide equivalents (MMTCO₂e) in 2004, and GHG emissions in the U.S. were 7,074.4 MMTCO₂e.

California is the second largest contributor of GHGs in the U.S. and the twentieth largest in the world. In 2010, California produced 453 MMTCO₂e of GHG emissions, including emissions from imported electricity and excluding combustion of international fuels and carbon sinks or storage, which is approximately 7 percent of U.S. emissions. According to ARB's recent GHG inventory for the State, the single largest source of GHGs in California is on-road transportation, contributing approximately 35 percent of the State's total GHGs emissions in 2010. Electricity generation (both in and out of state) and industrial uses are the second largest sources, each contributing 20 percent of the State's GHG emissions. The inventory for California's GHG emissions between 2000 and 2012, by even years, is presented in Table 3.2-2.

Table 3.2-2: California Greenhouse Gas Inventory 2000-2011

Main Sector ¹	Emissions MMTCO ₂ e						
	2000	2002	2004	2006	2008	2010	2012
Agriculture	32.52	35.99	36.26	37.75	37.99	35.73	37.86
Commercial	12.63	14.24	13.39	13.31	13.37	14.40	14.20
Electricity Generation ²	140.86	108.65	115.20	104.54	120.15	90.30	95.09
High GWP ³	8.03	8.14	9.56	11.08	12.87	15.89	18.41
Industrial	95.01	93.14	94.48	90.28	87.54	88.51	89.16
Recycling and Waste ⁴	7.35	7.43	7.57	7.80	8.09	8.34	8.49
Residential	29.70	28.93	29.51	28.58	29.07	29.42	28.09
Transportation – On-road	162.88	169.64	171.48	172.37	163.00	157.38	154.06
Transportation – Non-road ⁵	13.33	14.16	15.41	16.782	15.02	13.08	13.32
Total	466.32	480.32	492.86	482.52	487.10	453.06	458.68

Notes:
¹ Excludes military sector, aviation and international marine bunker fuel;
² Includes In-state electricity generation and imported electricity;
³ Includes substitutes for ozone depleting solvents, SF₆ losses from electricity grids and semiconductor manufacturing;
⁴ Consists of emissions from landfills and composting process;
⁵ Includes equipment used in construction, mining, oil drilling, industrial and airport ground operations.
 Source: California Air Resources Board, 2014.

In addition to the state-level GHG emission inventory that was prepared by ARB, BAAQMD prepared a GHG emissions inventory for the San Francisco Bay Area Air Basin (Air Basin), as well as for each county or portion of county therein. In 2007, the Air Basin produced 96 MMTCO₂e of GHG emissions. Of that amount, Napa County produced 1.6 MMTCO₂e, which is 1.6 percent of the GHG emissions in the Air Basin.

The emission inventory included direct and indirect GHG emissions due to human activities. The inventory focuses on the base year of 2007, and covers major GHGs, which include carbon dioxide, methane, nitrous oxides, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

The activity data reflects current industrial activity, motor vehicle travel, and economic and population growth. Most of the methodologies for calculating emissions remain the same as the prior (Year 2002) inventory prepared by BAAQMD, with some exceptions. The Air Basin and Napa County GHG inventories for 2007 are presented in Table 3.2-3.

Table 3.2-3: Air Basin and Napa County Greenhouse Gas Inventories

Main Sector *	San Francisco Bay Area Air Basin		Napa County	
	GHG Emissions MMTCO ₂ e	Percent of Annual Inventory	GHG Emissions MMTCO ₂ e	Percent of Annual Inventory
Agriculture/Farming	1.11	1.2%	0.1	6.3%
Industrial/Commercial	34.86	36.4%	0.3	18.8%
Electricity/Co-Generation *	15.20	15.9%	0.2	12.5%
Off-Road Equipment	2.92	3.1%	0.0	0.00%
Residential Fuel Usage	6.82	7.1%	0.1	6.3
Transportation	34.87	36.4%	0.9	56.3
Total	95.78	100.0%	1.6	100.0%

Note:
* Includes emissions from imported electricity
Source: Bay Air Quality Management District, 2010.

The inventory found that the majority of GHG emissions in the Bay Area were generated by the transportation sector and the industrial and commercial sector, with each contributing approximately 36 percent of the total emissions inventory. However, in Napa County, the majority of GHG emissions were generated by the transportation sector, which generated more than 56 percent of the GHG inventory within the County.

Consequences of Climate Change in California

In California, climate change may result in consequences such as the following (from California Climate Change Center 2006 and Moser et al. 2009):

- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will

stimulate the growth of more plant “fuel” available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.

- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today’s conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California’s coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California’s forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

3.2.2 - Regulatory Setting

State Regulations

The State has enacted several key pieces of regulation, some of which are discussed below.

AB 32

In 2006, the California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHG emissions in California. GHGs as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. ARB is the state agency charged with monitoring and regulating sources of GHG emissions that cause global warming in order to reduce them. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

ARB approved the 1990 GHG emissions level of 427 MMTCO₂e on December 6, 2007. Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a “business as usual” scenario are estimated to be 545 MMTCO₂e, not including reductions associated with the Pavley I and Renewable Portfolio Standard measures.

ARB approved the Climate Change Scoping Plan in December 2008. The Scoping Plan contains a set of measures designed to reduce the State’s emissions to 1990 levels by the year 2020. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. The First Update to the Scoping Plan was approved by the ARB on May 22, 2014. The reduction required of the State’s 2020 BAU inventory to achieve 1990 levels was first determined to be 28.4 percent, based on the 2008 Scoping Plan baseline inventory and growth projections made at the time. However, the First Update to the Scoping Plan has now determined that a statewide 21.7-percent reduction would be sufficient to meet the 1990 levels and achieve compliance with AB 32.

SB 375

SB 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

California Public Resources Code Section 21159.28 states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss: (1) growth inducing impacts; or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

Bay Area Air Quality Management District

BAAQMD regulates air quality in the Air Basin, which consists of the entirety of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties; the western portion of Solano County; and the southern portion of Sonoma County. BAAQMD is responsible for controlling and permitting industrial pollution sources (such as power plants, refineries, and manufacturing operations) and widespread, area-wide sources (such as bakeries, dry cleaners, service stations, and commercial paint applicators), and for adopting local air quality plans (AQPs) and rules.

BAAQMD updated their CEQA Air Quality Guidelines (Guidelines) in June 2010 to include new thresholds of significance (2010 Thresholds). BAAQMD's Guidelines were further updated in May 2011. The 2010 Thresholds included new thresholds of significance for plan-level GHGs.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that BAAQMD had failed to comply with CEQA when it adopted the 2010 Thresholds. The Court did not determine whether the 2010 Thresholds were valid on the merits, but found that the adoption of the 2010 Thresholds was a project under CEQA. The Court issued a writ of mandate ordering BAAQMD to set aside the 2010 Thresholds and cease dissemination of them until they had complied with CEQA. BAAQMD appealed the Alameda County Superior Court's decision and the case went to the Court of Appeal, First Appellate District. The Court of Appeals has ruled that new or revised thresholds of significance adopted by BAAQMD are not a "project" under CEQA and, therefore, are not required to comply with CEQA requirements. The Court of Appeal's decision was appealed to the California Supreme Court, which granted limited review, and the matter is currently pending there.

In view of the trial court's order that remains in place pending final resolution of the case, the BAAQMD is no longer recommending that the 2010 Thresholds be used as a generally applicable measure of a project's significant air quality impacts. BAAQMD's updated CEQA Guidelines (updated May 2012) removed the 2010 Thresholds, but contains guidance in calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures. Lead agencies may continue to rely on the BAAQMD's 1999 Thresholds of Significance. In addition, it is recommended that Lead Agencies make determinations regarding the significance of an individual project's air quality impacts based on the substantial evidence in the record. The current and commonly accepted practice is to use the 2010 Thresholds in light of the substantial evidence supporting those thresholds.

Air Quality Plans

The latest AQP for the Air Basin is the 2010 Clean Air Plan, which provides the following:

- Review progress in improving Bay Area air quality to date.
- Establish a control strategy including "all feasible measures" to achieve state ozone standards by the earliest practicable date and reduce transport of ozone precursors to neighboring air basins.
- Address ozone, particulate matter, air toxics, and GHG emissions in a single integrated plan.

AQPs are required to address transportation control measures requirements of the federal Clean Air Act and California Clean Air Act. Transportation control measures are defined as "any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled (VMT), vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions." The Bay Area has extensive experience with developing and implementing transportation control measures. The first regional plan prepared pursuant to the California Clean Air Act, the 1991 Clean Air Plan, included 23 transportation control measures to meet state planning requirements (state transportation control measures). Plan updates in 1994 and 1997 included revisions to the transportation control measures.

Metropolitan Transportation Commission and Association of Bay Area Governments

In July 2013, the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) jointly approved Plan Bay Area, which includes the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan, and the associated Final EIR. Two of the ten "targets" of Plan Bay Area address the requirements of Senate Bill 375, "The California Sustainable Communities and Climate Protection Act of 2008" (Steinberg).

The first two targets are required by Senate Bill 375, and address the respective goals of climate protection and adequate housing:

- Reduce per-capita carbon dioxide emissions from cars and light-duty trucks by seven percent by 2020 and by 15 percent by 2035.
- House 100 percent of the region's projected 25-year growth by income level (very-low, low, moderate, above-moderate), without displacing current low-income residents.

Portions of the City—specifically, the Downtown and Soscol Gateway Mixed Use Area—are identified in Plan Bay Area and associated support documents as a Priority Development Area (PDA). PDAs are existing neighborhoods nominated by local jurisdictions as appropriate places to concentrate future growth that will support the day-to-day needs of residents and workers in a pedestrian-friendly environment served by transit.

A total of four lawsuits have been filed against Plan Bay Area. All four lawsuits were filed with the Alameda County Superior Court and include three suits filed in August 2013 and one suit filed in October 2013. The August lawsuits were filed by the following parties: (1) Bay Area Citizens, (2) Communities for a Better Environment and the Sierra Club, and (3) the Building Industry Association of the Bay Area. The October lawsuit was filed by the Post-Sustainability Institute. In the Post-Sustainability Institute lawsuit, the petitioner claims Plan Bay Area violates private property rights as well as CEQA requirements. Three of the four suits have been settled out of court or were decided in Plan Bay Area's favor at the trial court level:

- In July 2014, the suit filed by Bay Area Citizens in conjunction with the Pacific Legal Foundation failed in Alameda Superior Court. The judge upheld the Plan and EIR.
- In June 2014, MTC and ABAG settled with the Sierra Club and Communities for a Better Environment. Both agencies agreed to disclose to the public progress in getting housing built in city and county PDAs and to explain how the plan measures and accounts for pollution reductions, among other things.
- In March 2014, MTC and ABAG agreed to settle with the Building Industry Association of the Bay Area, committing to monitor regional development patterns and types, along with issuance of building permits. The agencies also committed to a process that invites and discloses public comment when developing new strategies for the 2017 update to Plan Bay Area.

The remaining suit filed by the Post Sustainability Institute is pending in Alameda Superior Court and has yet to be considered.

Local Regulations

City of Napa

General Plan

The City of General Plan does not contain a GHG element or specify goals or policies to reduce GHG emissions. However, some air quality policies also reduce GHG emissions. The City's General Plan establishes the following goals and policies that are relevant to GHG emissions:

- **Goal NR-5:** To maintain acceptable levels of air quality in Napa.
 - **Policy NR-5.1:** The City shall encourage the use of mass transit, bicycle facilities, and pedestrian walkways in order to decrease use of private vehicles and thereby reduce emissions from mobile sources. [Refer also to Transit and Bicycle Policies T-51 to 5.17, T-6.1 to 6.11, and T-7.1 and 7.2.]
 - **Policy NR-5.2:** The City shall encourage land use patterns and management practices that conserve air and energy resources, such as mixed-use development and provisions for local-serving commercial uses adjacent to neighborhoods.
 - **Policy NR-5.3:** The City shall promote energy conservation/energy efficiency improvement programs, which reduce energy demand from power-generating facilities which contribute to background levels of regional air emissions.
 - **Policy NR-5.5:** The City shall, during early consultation with project proponents, encourage project design that minimizes direct and indirect air emissions. Projects should consider the following air quality concerns:
 - a. Land use and design measures to encourage alternatives to the automobile and to conserve energy;
 - b. Land use and design measures to minimize exposure of sensitive receptors to odors, toxics, and criteria pollutants; and
 - c. Applicable Bay Area Air Quality management District rules, regulations, and permit requirements.
 - **Policy NR-5.6:** The City shall continue and, where appropriate, expand the use of synchronized traffic signals on roadways susceptible to emissions improvement through approach control.

In addition to the policies listed above, Appendix E of the General Plan provides a comprehensive list of policies and programs related to air quality.

Sustainability Plan

The City of Napa adopted the City of Napa Sustainability Plan in July 2012. The Sustainability Plan contains two main components; a City Government Operations Plan and a Community Plan. As stated by the Sustainability Plan, the Community Plan is more qualitative than quantitative, due to data limitations. As such, the City intends to update and revise the Community Plan as more data and resources become available.

The City's Community Plan details existing programs and initiatives that serve to reduce GHG emission from land uses and activities within the City, as well as new voluntary initiatives to improve sustainability. The Community Plan identifies new voluntary measures within the following categories:

- **Energy.** The majority of measures within the Energy category focus on public education and improving energy conservation at existing facilities.
- **Mobility and Transportation.** Measures within this category promote alternative transportation infrastructure and use, with a focus on bicycling, walking, and mass transit.
- **Recycling and Waste Reduction.** This category includes public education as well as expansion or addition of recycling and composting programs.
- **Local Food.** Measures within this category promote the use of local foods and include establishing a community kitchen, creating a local food distribution hub, and public education, among other measures.
- **Natural & Built Environment.** This category includes measures designed to promote education and awareness of the interconnected nature of natural resources, land use, and climate change. An example of this includes the relationship between water use and energy use.
- **Local Business and Economy.** Voluntary initiatives within this category are designed to further the goal of supporting a resilient and thriving city where business are supported and recognized for pursuing sustainability.
- **Community Connectedness.** Measures within this category promote a more connected and inclusive community, such as installing kiosks or bulletin boards to display important information, announcements, and upcoming events.

As provided in the Community Plan, the document does not adhere to BAAQMD's Guidelines for a "qualified" climate action plan. Rather, the Sustainability Plan includes implementation actions for guiding the community and the City organization in efforts to reduce GHG emissions.

3.2.3 - Methodology

The purpose of BAAQMD's Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the Air Basin. The Guidelines contain guidance on how to determine the significance of plan-level actions. Based on substantial evidence in the record, BAAQMD's 2010 Thresholds were utilized for this document. To the degree applicable, the 2011 Guidelines (which contain the 2010 Thresholds) were used in the impact analysis.

3.2.4 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether greenhouse emissions impacts are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

3.2.5 - Project Impact Analysis and Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

Greenhouse Gas Emissions

Impact GHG-1: **Implementation of the Housing Element would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.**

Impact Analysis

BAAQMD provides multiple options in its 2010 Thresholds for plan-level GHG generation from project operation. Prior to the 2010 Air Guidance document, BAAQMD did not have an adopted threshold of significance for GHG emissions. BAAQMD does not currently provide a construction-related GHG threshold. The thresholds suggested in BAAQMD's 2010 Guidance document for plan-level operational GHG generation are:

- Compliance with a qualified GHG Reduction strategy, or
- 6.6 metric tons of CO₂ equivalent per service population (employees plus residents).

This analysis evaluates the implementation of the Housing Element against the threshold of 6.6 MTCO₂e per service population. As disclosed in the City's Sustainability Plan, the plan is not considered a qualified GHG reduction strategy by BAAQMD. Therefore, compliance with the City's Sustainability Plan cannot be used as the CEQA threshold for analysis of impacts related to GHGs.

Emissions Inventory

This analysis is restricted to GHGs identified by AB 32, which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The implementation of the Housing Element would generate a variety of GHGs during construction and operation of individual housing sites, including several defined by AB 32 such as carbon dioxide, methane, and nitrous oxide.

Certain GHGs defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be generated by residential housing sites. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

Construction Emissions

The implementation of the Housing Element would emit GHGs from upstream emission sources and direct sources (combustion of fuels from worker vehicles and construction equipment).

An upstream emission source (also known as life cycle emissions) refers to emissions that were generated during the manufacturing of products to be used for construction of the project. Upstream emission sources for the project include but are not limited to the following: emissions from the manufacturing of cement, emissions from the manufacturing of steel, and/or emissions from the transportation of building materials to the seller (because CalEEMod only estimates the transportation of building materials locally). The upstream emissions were not estimated because they are not within the control of the project and to do so would be speculative at this time. Pursuant to CEQA Guidelines Sections 15144 and 15145, upstream/life cycle emissions are speculative and no further discussion is necessary.

The emissions of carbon dioxide from construction equipment and worker vehicles are were not estimated for implementation of the Housing Element, as the development timeline and construction components are unknown, and would be speculative at this time. Furthermore, BAAQMD does not have a recommended assessment methodology or threshold for plan-level, construction-generated GHGs.

Operational Emissions

Operational emissions were estimated using CalEEMod using the trip generation estimates provided in the Transportation Impact Analysis prepared by Kittleson & Associates. The year of analysis is 2020. This provides a conservative analysis because the anticipated buildout date of the project is 2023. In addition, the following regulatory compliance measures were incorporated into the analysis:

- Compliance with California 2013 Title 24 energy efficiency requirements, which are 25 percent more efficient than the 2008 Title 24 requirements for residential development.
- Water efficiency measures were incorporated in compliance with California Green Building mandatory measures.
- Renewable Portfolio Standards (RPS) compliance for Pacific Gas and Electric was included. RPS requires an increase of renewable energy use by utility providers.
- BAAQMD Regulation 8, Rule 3 (Woodburning Devices) compliance. Emissions analysis assumes no woodburning fireplaces or stoves would be installed in new residential development, consistent with BAAQMD regulations.

The project's GHG emissions are provided in Table 3.2-4. The CalEEMod output is provided in Appendix B. The draft Housing Element's service population is estimated to be 4,760, based on an assumed 2.72 persons per household.

Table 3.2-4: Operational CO₂ Generation (Year 2020)

Housing Element Site	Annual Emissions (MTCO ₂ e)
Alta Heights	412
Beard (B 77)	673
Beard (B81)	1,154
Beard (B 84 and B86)	187
Central Napa	1,448
Linda Vista	102
Pueblo	413
Gasser Master Plan	3,438
Terrace Shurtleff	821
Vintage (V 21, V 24, and V 37)	1,162
Vintage (V 33H)	493
Westwood (W 113, W 114, and W 132)	2,342
Westwood (W126 and MU 475)	355
Total Emissions	13,007
Service Population	4,760
Emissions per service population	2.7 MTCO ₂ e/SP
BAAQMD Threshold	6.6 MTCO ₂ e/SP
Notes: MTCO ₂ e = metric tons of carbon dioxide equivalent SP = service population Source: CalEEMod output (Appendix A).	

As shown in Table 3.2-4, development of the draft Housing Element sites would result in an estimated GHG emissions rate of 2.7 MTCO₂e per person, which is below the BAAQMD’s plan-level efficiency metric of 6.6 MTCO₂e per service population. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

Conflict with Plan, Policy, or Regulation that Reduces Emissions

Impact GHG-2: Implementation of the Housing Element would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Impact Analysis

To assess this potential impact, FCS evaluated the consistency of the Housing Element with the City of Napa's Sustainability Plan, and ARB's Scoping Plan.

City of Napa Sustainability Plan

The City of Napa adopted its Sustainability Plan in 2012. The Community Plan portion of the Sustainability Plan identifies existing programs and initiatives that support sustainability, as well as new voluntary initiatives to improve sustainability. As stated within the Community Plan, the voluntary initiatives require participation of residents and business to be effective. The Housing Element would not conflict with or impede these actions or relevant General Plan policies.

Scoping Plan

As discussed in the Regulatory Section, ARB adopted the Climate Change Scoping Plan (Scoping Plan), which outlines actions recommended to obtain emission reduction goals contained in AB 32. The Scoping Plan states, "The 2020 goal was established to be an aggressive, but achievable, mid-term target, and the 2050 GHG emissions reduction goal represents the level scientists believe is necessary to reach levels that will stabilize climate" (ARB 2008, page 4). The year 2020 goal of AB 32 corresponds with the mid-term target established by Executive Order S-3-05, which aims to reduce California's fair-share contribution of GHGs in 2050 to levels that will stabilize the climate. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. Therefore, the majority of measures are not directly applicable or implementable for individual development projects, or plan-level actions such as the proposed Housing Element. However, implementation of the Housing Element via development of the housing sites would be consistent with the City's General Plan, which required increased energy efficiency, water conservation, and reduction in waste through the incorporation of efficient design features.

As provided by BAAQMD:

BAAQMD's approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move us towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant.

Therefore, if a project is less than BAAQMD's threshold of significance for GHGs, it stands to reason that the project would not substantially conflict with existing California legislation adopted to reduce

statewide GHG emissions. As shown in the analysis of Impact GHG-1, the project would not exceed BAAQMD's threshold of significance for GHG emissions and would result in a less than significant impact. Therefore, the project would not substantially conflict with the emission reduction requirements of AB 32. ARB's Scoping Plan was adopted to implement the emission reduction requirements of AB 32. Therefore, the project would not conflict with the Scoping Plan.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

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3.3 - Land Use and Planning

This section describes the existing land use setting and potential effects from adoption and implementation of the draft Housing Element on the project area and its surroundings. The descriptions and analysis in this section are based on the City of Napa General Plan and the draft Housing Element.

3.3.1 - Existing Conditions

According to the Land Use Element of the General Plan, approximately two-thirds of the City's land area is developed with residential uses. Of the remaining area, 8 percent is commercial, 4 percent is industrial, 12 percent is parks and public/quasi-public land, and 9 percent is vacant or agricultural. Existing residential areas are developed with a range of housing types and densities, from large-lot single-family homes to higher-density apartments and condominiums.

3.3.2 - Regulatory Setting

State Regulations

General Plan Law

Government Code Section 65300 establishes requirements for General Plans. The law requires that a General Plan contain seven mandated elements, including a Housing Element. Government Code Section 65580, et seq. contain the specific requirements for housing elements, which include analysis of housing needs, resources, constraints and identification of adequate sites to accommodate the jurisdiction's identified share of regional housing needs.

Local Regulations

The current Housing Element was last updated in 2009 and provides policies and objectives to guide residential development within the City. Land use and housing policies and objectives are also implemented through the Zoning Ordinance (Title 17 of the Municipal Code). The Zoning Ordinance establishes allowable land uses, development standards, and review procedures for housing and other types of development.

The Napa General Plan sets forth the following goals, policies, and programs related to residential land use:

Land Use Element

- **Policy LU-3.2:** To minimize urban/rural conflicts (e.g., pesticides, odors, noise, vandalism, feral pets), the City shall ensure a buffer is provided (agricultural setback) between residential uses on the periphery of the RUL and productive agricultural land outside the RUL.
- **Policy LU-3.6:** The City shall maintain adequate supply of land designated for residential uses to accommodate the plan's projected population growth. To this end, the City shall monitor the ability of the plan to achieve this growth through such means as monitoring of plan changes from residential to nonresidential designations, preparation and review of annual growth management reports, and other measures as appropriate, and shall undertake responsive actions as necessary.

- **Policy LU-3.7:** The City shall monitor county employment and housing development trends to evaluate their impacts on the city's jobs/housing balance.
- **Policy LU-4.1:** The City shall require new residential development to conform to the density range shown in Table 1-4 (unless site-specific physical or environmental constraints preclude the achievement of the minimum density; unless density bonuses are granted; or unless, in Multi Family Residential areas, housing policy H-1.7 permits density flexibility within the Multi Family range), and to be consistent with the general neighborhood typology (see Table 1-3 and Appendix B) of the surrounding area. The City may require clustering in environmentally sensitive areas when special measures are adopted to ensure the sensitive portions of each property remain undeveloped in the future.
- **Policy LU-4.3:** The City shall encourage the development of housing for the elderly, disabled, and low-income households in every planning area with residential Pods, where the City determines the development is compatible with surrounding land uses and where site conditions and service capabilities permit. Sites considered especially appropriate for these uses are those accessible to transit, commercial, and medical services. Planned developments, condominiums, and mobile home parks are considered to have unique, self-contained development patterns that can be designed with little impact on the existing development pattern.
- **Policy LU-4.4:** The City shall grant density bonuses and other incentives to encourage development of housing affordable to low-income households (as described in the Housing Element).
- **Policy LU-4.5:** The City shall allow development of attached units in the Single Family Infill (SFI) and Traditional Residential (TRI) land use designations and encourage units that will provide housing affordable to elderly, disabled, or low income persons when such units are compatible with the design characteristics of surrounding residential uses.

3.3.3 - Methodology

FirstCarbon Solutions evaluated potential impacts on land use through review of the existing General Plan and proposed Housing Element, aerial photographs, and applicable state laws.

3.3.4 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether land use and planning impacts are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Physically divide an established community?
- b) 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, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
- c) Conflict with any applicable habitat conservation plan or natural communities conservation plan? (Refer to Section 7, Effects Found Not To Be Significant.)

3.3.5 - Project Impact Analysis and Mitigation Measures

Divide Established Community

Impact LUP-1: Implementation of the Housing Element would not physically divide an established community.

Impact Analysis

The draft Housing Element's policies and programs focus on the preservation, rehabilitation, and development of affordable housing and housing for persons with special needs, providing housing assistance to lower-income persons, and promoting fair housing. No changes to land use patterns are proposed in the draft Housing Element; therefore future development would continue as called for in the General Plan Land Use Element and zoning regulations. Therefore, the draft Housing Element would not physically divide an established community.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

Conflict with Applicable Plans, Policies, or Regulations

Impact LUP-2: Implementation of the Housing Element 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, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Impact Analysis

The 2020 General Plan EIR and the Initial Study prepared for the 2009 Housing Element evaluated impacts regarding potential conflicts with applicable land use plans, policies, and regulations. The 2009 Housing Element Initial Study concluded that no significant impacts would occur, and the draft Housing Element update does not propose any changes to policies or to land use and development regulations. In addition, there have been no changes to circumstances or new information of substantial importance that result in significant new impacts due to conflicts with land use plans or policies.

Among the most noteworthy environmental issues that are directly related to the draft Housing Element are transportation and related impacts to air quality and greenhouse gas emissions. Senate Bill 375, approved by the legislature in 2008, requires consistency between regional transportation plans and regional housing plans. ABAG's Regional Transportation Plan and Regional Housing Needs Assessment are based on the same growth forecast, and the proposed draft Housing Element is

consistent with both of these regional plans, thereby helping to reduce environmental impacts in the areas of transportation, air quality, and climate change. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

3.4 - Noise

This section describes the existing noise setting and potential effects from adoption and implementation of the draft Housing Element on the project area and its surroundings. The descriptions and analysis in this section are based on information provided by the City of Napa General Plan and Municipal Code, as well as the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model.

3.4.1 - Environmental Setting

Fundamentals of Noise

Noise is usually defined as unwanted sound. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness. Only audible changes in existing ambient or background noise levels are considered potentially significant.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level. Noise levels diminish or attenuate as distance from the source increases based on an inverse square rule, depending on how the noise source is physically configured. Noise levels from a single-point source, such as a single piece of construction equipment at ground level, attenuate at a rate of 6 dB for each doubling of distance (between the single-point source of noise and the noise-sensitive receptor of concern). Heavily traveled roads with few gaps in traffic behave as continuous line sources and attenuate roughly at a rate of 3 dB per doubling of distance.

Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Table 3.4-1 shows some representative noise sources and their corresponding noise levels in dBA.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound, including during sensitive times of the day and night. The predominant rating scales in the State of California are the L_{eq} , the day-night average level (L_{dn}) based on A-weighted decibels (dBA), and the community noise equivalent level (CNEL). The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. The L_{dn} is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of ten decibels to sound levels at night between 10 p.m. and 7 a.m. The CNEL is similar to the L_{dn} , except that

it has another addition of 4.77 dB to sound levels during the evening hours between 7 p.m. and 10 p.m. These additions are made to the sound levels at these times because there is a decrease in the ambient noise levels during the evening and nighttime hours, which creates an increased sensitivity to sounds. For this reason, sound is perceived to be louder in the evening and nighttime hours compared with daytime hours and is weighted accordingly. Many cities rely on the CNEL noise standard to assess transportation-related impacts on noise-sensitive land uses.

Table 3.4-1: Typical A-Weighted Noise Levels

Indoor Noise Source	Noise Level (dBA)	Outdoor Noise Sources
(Threshold of Hearing in Laboratory)	0	*
Library	30	Quiet Rural Nighttime
Refrigerator Humming	40	Quiet Suburban Nighttime
Quiet Office	50	Quiet Urban Daytime
Normal Conversation at 3 feet	60	*
Vacuum Cleaner at 10 feet	70	Gas Lawn Mower at 100 feet
Hair Dryer at 1 foot	80	Freight Train at 50 feet
Food Blender at 3 feet	90	Heavy-duty Truck at 50 feet
Inside Subway Train (New York)	100	Jet Takeoff at 2,000 feet
Smoke Detector Alarm at 3 feet	110	Unmuffled Motorcycle
Rock Band near stage	120	Chainsaw at 3 feet
*	130	Military Jet Takeoff at 50 feet
*	140	(Threshold of Pain)
Note: * No typical indoor/outdoor noise sources. Source: Compiled by FirstCarbon Solutions, 2014.		

Noise standards in terms of percentile exceedance levels, L_n , are often used together with the L_{max} for noise enforcement purposes. When specified, the percentile exceedance levels are not to be exceeded by an offending sound over a stated time period. For example, the L_{10} noise level represents the level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level (which means that the noise level exceeds the L_{50} noise level half the time, and is less than this level half the time). The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the lowest noise level experienced during a monitoring period. The L_{90} noise level is normally referred to as the background noise level. For a relatively steady noise, the measured L_{eq} and L_{50} are approximately the same.

When assessing the annoyance factor, other noise rating scales of importance include the maximum noise level (L_{max}), which is the highest exponential time averaged sound level that occurs during a stated time period. L_{max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Construction Noise Fundamentals

Construction activities are a source of existing noise within the City. Short-term noise impacts are associated with demolition, excavation, grading, and building construction. Construction-period noise levels are higher than background ambient noise levels, but eventually cease once construction is complete.

Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on each construction site and, therefore, would change the noise levels as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction related noise ranges to be categorized by work phase. Table 3.4-2 shows typical noise levels of construction equipment as measured at a distance of 50 feet from the operating equipment.

Table 3.4-2: Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Impact Pile Driver	Yes	95
Auger Drill Rig	No	85
Vibratory Pile Driver	No	95
Jackhammers	Yes	85
Pneumatic Tools	No	85
Pumps	No	77
Scrapers	No	85
Cranes	No	85
Portable Generators	No	82
Rollers	No	85
Dozers	No	85
Tractors	No	84
Front-End Loaders	No	80
Backhoe	No	80
Excavators	No	85
Graders	No	85
Air Compressors	No	80
Dump Truck	No	84
Concrete Mixer Truck	No	85
Pickup Truck	No	55
Source: FHWA, 2006.		

Groundborne Vibration Fundamentals

Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. When assessing annoyance from groundborne noise, vibration is typically expressed as root mean square (rms) velocity in units of decibels of 1 micro-inch per second. To distinguish vibration levels from noise levels, the unit is written as “VdB”.

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Common sources of groundborne vibration include construction activities such as blasting, pile driving and operating heavy earthmoving equipment. However, construction vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). For purposes of this analysis, project related impacts are expressed in terms of PPV. Typical vibration source levels from construction equipment are shown in Table 3.4-3.

Table 3.4-3: Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 Feet (inches/second)	RMS Velocity in Decibels (VdB) at 25 Feet
Water Trucks	0.001	57
Scraper	0.002	58
Bulldozer – small	0.003	58
Jackhammer	0.035	79
Concrete Mixer	0.046	81
Concrete Pump	0.046	81
Paver	0.046	81
Pickup Truck	0.046	81
Auger Drill Rig	0.051	82
Backhoe	0.051	82
Crane (Mobile)	0.051	82
Excavator	0.051	82
Grader	0.051	82
Loader	0.051	82
Loaded Trucks	0.076	86
Bulldozer - Large	0.089	87
Caisson drilling	0.089	87
Vibratory Roller (small)	0.101	88
Compactor	0.138	90
Clam shovel drop	0.202	94
Vibratory Roller (large)	0.210	94
Pile Driver (impact-typical)	0.644	104
Pile Driver (impact-upper range)	1.518	112

Source: Compilation of scientific and academic literature, generated by FTA and FHWA.

Propagation of vibration through soil can be calculated using the vibration reference equation of $PPV = PPV_{ref}(5/D)^n$ (in/sec), where:

- PPV = reference measurement at 5 feet from vibration source
- D = distance from equipment to property line
- N = vibration attenuation rate through ground

According to Chapter 12 of the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (Federal Transit Administration 2006) manual, an “n” value of 1.5 is recommended to calculate vibration propagation through typical soil conditions.

Existing Conditions

Noise sources that affect the baseline noise levels throughout the City are described below.

Existing Traffic Noise

The most significant noise sources in Napa are highways (State Routes 29, 121, 221, and 12) and principal arterial streets (Jefferson and Trancas Streets, Soscol and Lincoln Avenues, Redwood Road, and the traffic corridor between First and Fourth Streets from Highway 29 to the downtown area). Existing traffic noise levels along highway and roadway segments throughout the City were calculated using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108). This model requires parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The daily traffic volumes were obtained from the traffic analysis prepared by Kittelson and Associates, Inc. as presented in Section 3.6, Transportation and Traffic. The model inputs and outputs, including the 60 dBA, 65 dBA, and 70 dBA CNEL noise contour distances for existing and existing-plus-project traffic conditions, are provided in Appendix C of this document. A summary of the modeling results is shown in Table 3.4-4 below.

Table 3.4-4: Existing Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
SR-29 - North of Trancas Street	36,000	258	553	1,190	78.5
SR-29 - South of SR-20/W. Imola Avenue	56,300	346	745	1,604	80.4
SR-29 - South of SR-12/SR-121 Junction	52,500	331	711	1,531	80.1
1st Street - West of California Boulevard	26,100	183	394	848	77.7

Table 3.4 4 (cont.): Existing Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Lincoln Avenue - West of Soscol Avenue	12,600	73	153	327	70.5
Jefferson Street - North of Clay Street	13,600	90	191	410	71.9
Soscol Avenue - North of 1st Street	22,500	146	311	668	74.7
Silverado Trail (SR-121) - North of 1st Street	12,800	99	213	459	73.7
West Imola Avenue (SR-121) - East of Jefferson Street	23,200	128	272	584	73.8
SR-221 - South of SR-121/W. Imola Avenue	33,000	187	401	862	76.4

Note:
ADT = Average Daily Traffic
Source: FirstCarbon Solutions, 2014.

3.4.2 - Regulatory Setting

Federal Regulations

United States Environmental Protection Agency (EPA)

In 1972, Congress enacted the Noise Control Act. This act authorized the EPA to publish descriptive data on the effects of noise and establish levels of sound “requisite to protect the public welfare with an adequate margin of safety.” These levels are separated into health (hearing loss levels) and welfare (annoyance levels) categories, as shown in Table 3.4-5. The EPA cautions that these identified levels are not standards because they do not take into account the cost or feasibility of achieving the levels.

Table 3.4-5: Summary of EPA Recommended Noise Levels to Protect Public Welfare

Effect	Level	Area
Hearing loss	$L_{eq}(24) \leq 70$ dB	All areas.
Outdoor activity interference and annoyance	$L_{dn} \leq 55$ dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.

Table 3.4-5 (cont.): Summary of EPA Recommended Noise Levels to Protect Public Welfare

Effect	Level	Area
Outdoor activity interference and annoyance (<i>cont.</i>)	$L_{eq}(24) \leq 55$ dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	$L_{eq} \leq 45$ dB	Indoor residential areas.
	$L_{eq}(24) \leq 45$ dB	Other indoor areas with human activities such as schools, etc.
Source: EPA, 1974.		

For protection against hearing loss, 96 percent of the population would be protected if sound levels are less than or equal to an $L_{eq(24)}$ of 70 dBA. The “(24)” signifies an L_{eq} duration of 24 hours. The EPA activity and interference guidelines are designed to ensure reliable speech communication from a distance of approximately 5 feet in the outdoor environment. For outdoor and indoor environments, interference with activity and annoyance should not occur if levels are below 55 dBA and 45 dBA, respectively.

The noise effects associated with an outdoor L_{dn} of 55 dBA are summarized in Table 3.4-6. At 55 dBA L_{dn} , 95 percent sentence clarity (intelligibility) may be expected at 11 feet, with no substantial community reaction. However, 1 percent of the population may complain about noise at this level and 17 percent may indicate annoyance.

Table 3.4-6: Summary of Human Effects in Areas Exposed to 55 dBA L_{dn}

Type of Effects	Magnitude of Effect
Speech – Indoors	100 percent sentence intelligibility (average) with a 5 dB margin of safety.
Speech – Outdoors	100 percent sentence intelligibility (average) at 0.35 meters. 99 percent sentence intelligibility (average) at 1.0 meters. 95 percent sentence intelligibility (average) at 3.5 meters.
Average Community Reaction	None evident; 7 dB below level of significant complaints and threats of legal action and at least 16 dB below “vigorous action.”
Complaints	1 percent dependent on attitude and other non-level related factors.
Annoyance	17 percent dependent on attitude and other non-level related factors.
Attitude Towards Area	Noise essentially the least important of various factors.
Source: EPA, 1974.	

Federal Transit Administration (FTA)

The Federal Transit Administration (FTA) has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in the FTA's *Transit Noise and Vibration Impact Assessment* document (FTA 2006). The FTA guidelines include thresholds for construction vibration impacts for various structural categories as shown in Table 3.4-7.

Table 3.4-7: Federal Transit Administration Construction Vibration Impact Criteria

Building Category	PPV (in/sec)	Approximate VdB
I. Reinforced – Concrete, Steel or Timber (no plaster)	0.5	102
II. Engineered Concrete and Masonry (no plaster)	0.3	98
III. Non Engineer Timber and Masonry Buildings	0.2	94
IV. Buildings Extremely Susceptible to Vibration Damage	0.12	90
Source: FTA, 2006.		

State Regulations

The State of California has established regulations that help prevent adverse impacts to occupants of buildings located near noise sources. Referred to as the “State Noise Insulation Standard,” it requires buildings to meet performance standards through design and/or building materials that would offset any noise source in the vicinity of the receptor. State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are found in the California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code), Appendix Chapters 12 and 12A. For limiting noise transmitted between adjacent dwelling units, the noise insulation standards specify the extent to which walls, doors, and floor-ceiling assemblies must block or absorb sound. For limiting noise from exterior noise sources, the noise insulation standards set an interior standard of 45 dBA CNEL in any habitable room with all doors and windows closed. In addition, the standards require preparation of an acoustical analysis demonstrating the manner in which dwelling units have been designed to meet this interior standard, where such units are proposed in an area with exterior noise levels greater than 60 dBA CNEL.

Government Code Section 65302 mandates that the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise and land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. The City of Napa has adopted the State’s land use compatibility guidelines, as discussed below and shown in Exhibit 3.4-1.

Land Use Category	Community Noise Exposure in Decibels (CNEL) Day/Night Average Noise Level in Decibels (Ldn)						
	55	60	65	70	75	80	
Residential Low Density Single-Family, Duplex, Mobile Homes	Light	Light	Light	Light	Light	Light	Light
Residential – Multi-Family	Light	Light	Light	Light	Light	Light	Light
Transient Lodging – Motels, Hotels	Light	Light	Light	Light	Light	Light	Light
Schools, Libraries, Churches, Hospitals, Nursing Homes	Light	Light	Light	Light	Light	Light	Light
Auditoriums, Concert Halls, Amphitheaters	Light	Light	Light	Light	Light	Light	Light
Sports Arena, Outdoor Spectator Sports	Light	Light	Light	Light	Light	Light	Light
Playgrounds, Neighborhood Parks	Light	Light	Light	Light	Light	Light	Light
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Light	Light	Light	Light	Light	Light	Light
Office Buildings, Business Commercial and Professional	Light	Light	Light	Light	Light	Light	Light
Industrial, Manufacturing, Utilities, Agriculture	Light	Light	Light	Light	Light	Light	Light
	NORMALLY ACCEPTABLE Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.			NORMALLY UNACCEPTABLE New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.			
	CONDITIONALLY ACCEPTABLE New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.			CLEARLY UNACCEPTABLE New construction or development clearly should not be undertaken.			

Source: State of California General Plan Guidelines, 2003.



Exhibit 3.4-1 Land Use Compatibility Standards for Community Noise Environments

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Local Regulations

The City of Napa addresses noise in the Health and Safety Chapter of the General Plan (City of Napa 1998) and in the Municipal Code (City of Napa 2014).

General Plan

The City's adopted land use compatibility standards for community noise environments are shown in Exhibit 3.4-1. According to these standards, the upper limit of "normally acceptable" exterior noise levels should be 60 dBA CNEL for new residential development areas in the city. A normally acceptable noise level does not require any special noise insulation requirements, and conventional construction methods can be used. Environments with exterior noise levels between 55 dBA and 70 dBA CNEL are considered "conditionally acceptable" for new residential development; conventional construction can be used in these areas provide windows can remain closed with a fresh air supply system or air conditioning. Environments with ambient noise levels between 70 dBA and 75 dBA CNEL are considered to be "normally unacceptable" for new residential development. (New development is discouraged and requires a detailed analysis of noise reduction requirements and provision of noise insulation design features.)

The Napa General Plan sets forth the following policies and implementation programs related to noise.

Health and Safety Element

Policies

- **HS-9.1.** The City shall require new development to meet the exterior noise level standards set out in Table 8-1 [see Exhibit 3.4-1]. For residential areas, these exterior noise guidelines apply to backyards; exceptions may be allowed for front yards where overriding design concerns are identified.
- **HS-9.2.** The City shall use CEQA and the development review processes to ensure that new development does not exceed City standards.
- **HS-9.3.** The City shall use traffic management techniques to reduce the level of noise in residential neighborhoods to "normally acceptable," as shown in Table 8-1 [see Exhibit 3.4-1].
- **HS-9.6.** The City shall use the development and building permit review processes to site new construction in ways that reduce noise levels.
- **HS-9.7.** The City shall encourage the clustering, where appropriate, of residential development in order to provide open space that can be used to distance residences from noise sources.
- **HS-9.8.** The City shall respond to noise complaints by suggesting noise mitigation measures, and using code enforcement procedures when necessary.
- **HS-9.9.** When feasible and appropriate, the City shall limit construction activities to that portion of the day when the number of persons occupying a potential noise impact area is lowest.
- **HS-9.10.** The City shall encourage new development to maintain the ambient sound environment as much as possible. The City shall require new transportation-related noise sources that cause the ambient sound levels to exceed the compatibility standards in Table 8-1

[see Exhibit 3.4-1] to incorporate conditions or design modifications to reduce the potential increase in the noise environment.

- **HS-9.11.** The City shall regulate construction in a manner that allows for efficient construction mobilization and activities, while also protecting noise sensitive land uses.
- **HS-9.12.** The City shall evaluate and modify as necessary the City's designated truck routes to minimize noise impacts for sensitive land uses.
- **HS-9.13.** The City shall require new residential projects to provide for an interior CNEL of 45 dBA or less due to exterior noise sources. To accomplish this, the City shall review all residential and other noise sensitive land uses within the 60 dBA contours defined in the Table 8-2 [of the Noise Element] and Figure 8-11 [of the Noise Element] to ensure that adequate noise attenuation has been incorporated into the design of the project, or that other measures are implemented to protect future sensitive receptors.
- **HS-9.14.** The City shall encourage new development to identify alternatives to the use of sound walls to attenuate noise impacts. Appropriate techniques include site planning such as incorporating setbacks, revisions to the architectural layout such as changing building orientation to provide noise attenuation for portions of outdoor yards, and construction modifications. In the event that sound walls are the only practicable alternative, such walls should be designed to be as visually pleasing as possible, incorporating landscaping, variations in color and patterns, and/or changes in texture or building materials.

Implementation Programs

- **HS-9.A.** The City shall require an acoustical analysis prior to approval of proposed development of new residential or other noise-sensitive land uses in a noise impacted area (greater than 60 dB CNEL), or a new use that could generate noise levels in excess of the normally acceptable range for adjacent noise-sensitive land uses. The acoustical analysis should be performed during the environmental review process so that noise mitigation may be an integral part of the project design. The acoustical analysis shall:
 - a.) Be the responsibility of the applicant.
 - b.) Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
 - c.) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
 - d.) Include estimated noise levels in terms of Ldn for existing and projected future (20 years hence) conditions, with a comparison made to the adopted policies of the Safety Element.
 - e.) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Safety Element. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.
 - f.) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise section of this chapter will not be achieved, acoustical information to support a statement of overriding considerations for the project must be provided.
- **HS-9.B.** The City shall continue to enforce Title 24 of the *California Administrative Code* noise insulation requirements for new or significantly remodeled structures.

Municipal Code

The City addresses construction noise in Section 8.08.025 of the Noise Ordinance of the Municipal Code. According to this ordinance, construction activities throughout the entire duration of a project shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. Machines or equipment may not be started up prior to 8:00 a.m., Monday through Friday; no delivery of materials or equipment may occur prior to 7:30 a.m. or past 5:00 p.m., Monday through Friday; no cleaning of machines or equipment may occur past 6:00 p.m., Monday through Friday; no servicing of equipment may occur past 6:45 p.m., Monday through Friday; and construction on weekends or legal holidays shall be limited to the hours of 8:00 a.m. to 4:00 p.m., unless a permit shall first have been secured from the City Manager, or designee.

3.4.3 - Methodology

FirstCarbon Solutions evaluated potential impacts on noise through review of the existing General Plan and proposed Housing Element, and use of the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108).

3.4.4 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether noise impacts are significant environmental effects, the following questions are analyzed and evaluated.

Would the project result in:

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- 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 expose people residing or working in the project area to excessive noise levels? (Refer to Section 7.0, Effects Found Not To Be Significant.)
- f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? (Refer to Section 7.0, Effects Found Not To Be Significant.)

3.4.5 - Project Impact Analysis and Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

Exposure of People to or Generation of Noise Levels in Excess of Established Standards

Impact NOI-1: Implementation of the Housing Element would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Impact Analysis

The City has established noise standards for residential and non-residential land uses in the General Plan Noise Element and Municipal Code. These standards apply to noise-sensitive land uses within the existing noise environment and to noise created by future development.

For the proposed General Plan Housing Element, the significance of anticipated noise effects is based on a comparison between predicted noise levels under buildout conditions with implementation of the Housing Element update, and noise criteria defined by the City of Napa. Noise impacts are considered significant if existing or proposed noise-sensitive land uses would be exposed to noise levels in excess of the City's Noise Element and Municipal Code noise standards.

Traffic Noise Impacts

With implementation of the proposed Housing Element, development of noise-sensitive land uses could occur in areas within the City that have ambient noise levels from traffic noise sources in excess of 60 dBA CNEL.

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the housing development sites. Traffic data used in the model was obtained from the traffic analysis prepared by Kittelson and Associates, Inc. as presented in Section 3.6, Transportation and Traffic. The resultant noise levels were weighed and summed over a 24-hour period in order to determine the CNEL values. The model inputs and outputs, including the 60 dBA, 65 dBA, and 70 dBA CNEL noise contour distances for the modeled traffic scenarios, are provided in Appendix C of this document. The traffic noise modeling results for existing and cumulative year conditions, without and with the project, are summarized in Table 3.4-8.

Table 3.4-8: Existing and Cumulative Modeled Roadway Noise Levels

Roadway Segment	CNEL (dBA) 50 feet from Centerline of Outermost Lane				
	Existing No Project	Existing + Project	Increase over Existing No Project (dBA)	Cumulative	Increase over Existing No Project (dBA)
SR-29 - North of Trancas Street	78.5	78.5	0.0	79.3	0.8
SR-29 - South of SR-20/W. Imola Avenue	80.4	80.5	0.1	80.6	0.2
SR-29 - South of SR-12/SR-121 Junction	80.1	80.2	0.1	80.5	0.4
1st Street - West of California Boulevard	77.7	77.8	0.1	77.9	0.2

Table 3.4 8 (cont.): Existing and Cumulative Modeled Roadway Noise Levels

Roadway Segment	CNEL (dBA) 50 feet from Centerline of Outermost Lane				
	Existing No Project	Existing + Project	Increase over Existing No Project (dBA)	Cumulative	Increase over Existing No Project (dBA)
Lincoln Avenue - West of Soscol Avenue	70.5	70.6	0.1	71.1	0.6
Jefferson Street - North of Clay Street	71.9	72.0	0.1	72.5	0.6
Soscol Avenue - North of 1st Street	74.7	74.8	0.1	75.3	0.6
Silverado Trail (SR-121) - North of 1st Street	73.7	73.8	0.1	74.2	0.5
West Imola Avenue (SR-121) - East of Jefferson Street	73.8	73.8	0.0	74.2	0.4
SR-221 - South of SR-121/W. Imola Avenue	76.4	76.4	0.0	76.9	0.5

Source: FCS, 2014.

A significant impact would occur if proposed noise-sensitive land uses would be exposed to noise levels in excess of the City’s “normally acceptable” standard for that land use type. According to the City’s land use compatibility standards, shown in Exhibit 3.4-1, the upper limit for “normally acceptable” exterior noise levels for new single-family residential land uses is 60 dBA CNEL and the upper limit for “conditionally acceptable” exterior noise levels is 70 dBA CNEL. As shown in Table 3.4-8, roadway noise contours from every modeled roadway segment currently exceeds 70 dBA CNEL at 50 feet from the centerline of the outermost travel lane under all modeled scenarios.

It should be noted that these projected traffic noise levels along the modeled roadway segments do not take into account any existing sound walls or terrain features that could reduce traffic noise levels at adjacent land uses, but rather assume a worst-case direct line-of-sight over hard surface to the modeled traffic noise sources. This assumption and level of analysis is appropriate for a program-level noise analysis.

General Plan Health and Safety Element Policy HS-9.1 would ensure that noise impacts from traffic sources are minimized by requiring the use of the Land Use Compatibility Standards, shown in Exhibit 3.4-1, as a guide for requiring additional analysis and possible noise mitigation measures for making planning and development decisions on projects with potential noise impacts. Policies HS-9.2, HS-9.6, and HS-9.14 require the use of CEQA and City review processes to ensure that new development does not exceed City standards for noise-sensitive land uses, and that new development is sited in a manner that reduces noise levels without the use of soundwalls, if feasible. Policies HS-9.3, HS-9.7, and HS-9.10 require the City to consider site planning and traffic

management techniques, to achieve the noise level standards for new development projects and to reduce potential noise increases in the existing noise environment.

For new residential land use development, the City has also established interior noise level standards. Policy HS-9.13 requires site-specific review of all new residential development projects located within the City's identified 60 dBA CNEL roadway noise contours to ensure that adequate noise attenuation has been incorporated into the design of the project, or that other measures are implemented to protect future sensitive receptors. The City also requires, under Implementation Program HS-9.A, that an acoustical analysis be performed prior to approval of proposed development of new residential in noise-impacted areas (greater than 60 dB CNEL), to ensure that the new development would comply with the City's exterior and interior noise standards.

Compliance with the City of Napa's General Plan noise policies and programs would ensure that noise impacts on or from proposed new residential land use development that could occur with implementation of the Housing Element would be reduced to less than significant.

Railroad Noise Impacts

Similar to the traffic noise impacts described above, with implementation of the Housing Element, development of noise-sensitive land uses could occur in areas within the City that have ambient noise levels from railroad noise sources in excess of 60 dBA CNEL. Some of the proposed development areas of the Housing Element are located in the vicinity of the Southern Pacific Railroad (SPRR) line that runs through the City.

Policy HS-9.1 of the Health and Safety Element requires the use of the Land Use Compatibility Standards, shown in Exhibit 3.4-1, to be used as a guide for requiring additional analysis and possible noise mitigation measures for projects that could expose new residential land uses to excessive noise levels from railroad activity. Policies HS-9.2, HS-9.6, and HS-9.14 also require the use of CEQA and City review processes to ensure that new development does not exceed City standards for noise-sensitive land uses. The City also requires, under Implementation Program HS-9.A, that an acoustical analysis be performed prior to approval of new residential development in noise-impacted areas (greater than 60 dB CNEL), to ensure that the new development would comply with the City's exterior and interior noise standards.

Therefore, adherence to the City's noise policies and programs of the Health and Safety Element would ensure that railroad noise impacts on proposed new residential development that could occur with implementation of the Housing Element would be reduced to less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

Exposure of People to or Generation of Excessive Groundborne Vibration or Noise

Impact NOI-2: Implementation of the Housing Element may result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Impact Analysis

No new noise sources that would expose persons to excessive groundborne vibration or noise levels would result from implementation of the proposed Housing Element. However, common sources of existing groundborne vibration and noise include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment, which could occur as a result of construction of residential developments on sites identified in the Housing Element.

Groundborne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of groundborne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur.

Construction activities associated with projects that could occur under buildout associated with implementation of the Housing Element could result in exposure of sensitive land uses to excessive groundborne vibration and noise levels. Construction equipment such as pile drivers are known to generate substantial vibration levels that, if used in the vicinity of sensitive land uses, may expose persons to excessive vibration levels as well as to have the potential to damage buildings. Other construction equipment such as bulldozers and vibratory rollers do not create the vibration levels of pile drivers; however, these types of equipment are more likely to operate continuously and closer to sensitive receptors, and they may expose persons to noticeable vibration levels. Problems such as disturbance due to groundborne vibration and noise from these sources are usually contained to areas within about 100 feet of the vibration source (FTA 2006). Typically, the main effect of groundborne vibration and noise is to cause annoyances for occupants of nearby buildings. Many of the construction noise abatement measures discussed in Impact NOI-3 would serve to avoid or minimize such vibration annoyance impacts. Examples include the limits on the hours of construction activities, locating stationary equipment as far as possible from nearby receptors, and designating a noise disturbance coordinator who can respond to complaints. As with construction noise, vibration would be temporary and would cease upon the completion of the project. This would limit the potential for sustained exposure that could cause significant damage to older buildings. However, to ensure that potential temporary construction-related vibration impacts are reduced to below the FTA's construction vibration impact criteria shown in Table 3.4-7, mitigation must be incorporated.

Another source of potentially significant groundborne vibration impacts is railroad activity. Buildout associated with implementation of the Housing Element could expose new residential land uses to significant groundborne vibration impacts if such development occurs near the SPRR rail line. According to the FTA guidelines, the screening distance for potential groundborne vibration impacts from intermediate capacity railroad sources is 100 feet for residential land uses as measured from the rail line's right of way to the receiving property line (FTA 2006). Therefore, mitigation would be required to ensure that development of residential units does not expose persons to excessive groundborne vibration from railroad sources.

Level of Significance Before Mitigation

Potentially significant unless mitigation is incorporated.

Mitigation Measures

To reduce potential construction- or railroad-related groundborne vibration impacts, the following mitigation measures shall be implemented:

MM NOI-2a Prior to issuance of a demolition, grading or building permit, for any project resulting from buildout associated with implementation of the proposed Housing Element that would operate heavy construction equipment within 25 feet of sensitive receptors, the project applicant shall prepare a vibration impact assessment for review and approval by City staff. The report shall determine potential construction-related groundborne vibration impacts to off-site sensitive receptors. Mitigation shall be incorporated into the project to reduce potential vibration impacts to below the Federal Transit Administration's construction vibration impact criteria. Such measures may include but are not limited to restrictions on the type and number of pieces of heavy construction equipment that may operate within 25 feet of sensitive receptors.

MM NOI-2b Prior to issuance of a demolition, grading or building permit, for any project resulting from buildout associated with implementation of the proposed Housing Element that would develop residential land uses within 100 feet of the centerline of the Southern Pacific Railroad rail line, the project applicant shall prepare a vibration impact assessment for review and approval by City staff. The report shall determine potential railroad-related groundborne vibration impacts to proposed sensitive receptors. Mitigation shall be incorporated into the project to reduce potential railroad-related vibration impacts to below the Federal Transit Administration's vibration impact criteria outlined in Chapter 8 of the Transit Noise and Vibration Impact Assessment manual. Such measures may include but are not limited to use of setback requirements for sensitive land use development, or vibration dampening construction methods such as resilient or floating foundation construction techniques.

Level of Significance After Mitigation

Less than significant impact. Implementation of MM NOI-2a and MM NOI-2b listed above would ensure that groundborne vibration impacts resulting from buildout associated with implementation of the proposed Housing Element would be reduced to the maximum extent feasible and would not expose persons to substantial groundborne vibration levels.

Permanent Increase in Ambient Noise Levels

Impact NOI-3: **Implementation of the Housing Element would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.**

Impact Analysis

Significant noise impacts to off-site receptors would occur if the project would result in a substantial increase in ambient noise levels compared to noise levels existing without the project. Buildout that could occur under implementation of the Housing Element would result in an increase in vehicle trips throughout the City on roadway segments in the vicinity of new housing development sites. This increase in traffic volumes could result in increases in traffic noise along these roadway segments. Increases of 3 dBA are considered to be barely perceptible in outdoor environments; therefore, for purposes of this analysis, an increase of greater than 3 dBA would be considered a substantial permanent increase in ambient noise levels. As shown in Table 3.4-8, roadway noise levels under existing plus project and cumulative traffic conditions would generate only slight increases in traffic noise levels along modeled roadway segments compared to conditions existing without the project. Modeled roadway segments would experience increases of less than 1 dBA in traffic noise levels with buildout associated with implementation of the Housing Element. Therefore, traffic noise increases associated with implementation of the Housing Element would be less than significant, and no mitigation is required.

Buildout associated with implementation of the Housing Element would primarily consist of new residential land uses that are not considered major sources of stationary noise. However, construction of mixed-use land uses would also occur, which could include new stationary noise sources such as parking lot noise and mechanical equipment, such as heating and ventilation system (HVAC) noise. These noise sources could result in perceptible increases in ambient noise levels.

However, Implementation Program HS-9.A of the General Plan Health and Safety Element requires that an acoustical analysis be performed prior to approval of new land uses that could generate noise levels in excess of the normally acceptable range for adjacent noise-sensitive land uses. Future projects would be required to implement design features recommended by the acoustical analysis, in order to ensure compliance with the adopted policies and standards of the Safety Element.

Therefore, adherence to the City's noise policies, standards, and programs of the Health and Safety Element would ensure that noise impacts associated with new mixed-use or commercial land use development that could occur with implementation of the Housing Element would be reduced to less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

Temporary or Periodic Increase in Ambient Noise Levels

Impact NOI-4: Implementation of the Housing Element may result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Impact Analysis

Development that could result from implementation of the proposed Housing Element would involve construction activities at various periods of time that could result in short-term noise impacts at sensitive receptors in the vicinity of development projects. As shown in Table IV.I-7, typical maximum noise levels generated by earthmoving construction equipment range up to 86 dBA L_{max} at 50 feet. Each doubling of the sound sources with equal strength would increase the noise level by 3 dBA. Assuming multiple pieces of construction equipment operate simultaneously at a reasonable distance from each other, the worst-case combined noise level during the site preparation phase of construction would be 91 dBA L_{max} at a distance of 50 feet from an active construction area. These noise levels could result in annoyance or even sleep disturbance of sensitive receptors near construction sites unless mitigation is incorporated. Adherence to the City's permissible hours for permitted construction activities and incorporation of best management practices for any development project that would result from implementation of the proposed Housing Element would reduce construction noise impacts to the maximum extent feasible.

The City's noise ordinance permits noise-producing authorized construction activities during the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. Machines or equipment may not be started up prior to 8:00 a.m., Monday through Friday; no delivery of materials or equipment is permitted prior to 7:30 a.m. or past 5:00 p.m., Monday through Friday; no cleaning of machines or equipment is permitted past 6:00 p.m., Monday through Friday; no servicing of equipment may occur past 6:45 p.m., Monday through Friday; and construction on weekends or legal holidays shall be limited to the hours of 8:00 a.m. to 4:00 p.m., unless a permit shall first have been secured from the City Manager, or designee.

In addition to adherence to the City's construction noise restrictions and permissible hours of operation, mitigation requiring the implementation of best management practices would further reduce potential construction noise impacts associated with development resulting from future residential development. With the implementation of these mitigation measures, impacts would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

- MM NOI-4a** The construction contractor shall ensure that all internal combustion engine-driven equipment is equipped with mufflers that are in good condition and appropriate for the equipment.
- MM NOI-4b** The construction contractor shall locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area. In addition, the project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- MM NOI-4c** The construction contractor shall prohibit unnecessary idling of internal combustion engines.
- MM NOI-4d** The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- MM NOI-4e** The construction contractor shall designate a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints (starting too early, bad muffler, etc.) and institute reasonable measures warranted to correct the problem. The construction contractor shall conspicuously post a telephone number for the disturbance coordinator at the construction site.

Level of Significance After Mitigation

Less than significant impact. Because construction noise is temporary and applicants would be required to implement the noise abatement measures of MM NOI-4a through MM NOI-4e listed above, construction noise resulting from buildout associated with implementation of the proposed Housing Element would be reduced to the maximum extent feasible, and would not expose persons to substantial temporary increases in ambient noise levels.

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3.5 - Population and Housing

This section describes the existing population and housing setting within the City of Napa, and potential effects from adoption and implementation of the draft Housing Element on the project area and its surroundings. The descriptions and analysis in this section are based on population and housing information provided by the California Department of Finance, the California Employment Development Department, the Association of Bay Area Governments (ABAG), and the City of Napa General Plan.

3.5.1 - Existing Conditions

The California Department of Finance estimated the population of the City of Napa to be 78,358 as of January 1, 2014 (California Department of Finance 2014). The California Department of Employment Development estimated that of these residents, 44,000 persons were employed in April 2014. Current population, housing, and employment characteristics for Napa are summarized in Table 3.5-1.

Table 3.5-1: Population, Housing, and Employment Characteristics (2014)

Population	Housing Units	Households	Persons per Household	Employment	Unemployed Persons
78,358	30,324	28,330	2.72	44,000	2,400

Source: California Department of Finance, 2014; California Employment Development Department, 2014.

Historic Population Growth

The population growth rate in the City of Napa has been decreasing over the past 25 years. The City’s population grew by about 17 percent during the 1990s, but increased by only 6 percent from 2000 to 2010, and by less than 2 percent from 2010 to 2014. The City’s population growth between 1990 and 2014 is summarized in Table 3.5-2.

Table 3.5-2: City of Napa Historic Population Growth

Year	Population	Change From Previous
1990	61,865	—
2000	72,585	17.3%
2010	76,915	6.0%
2014	78,358	1.9%
Net Change 1990–2014	16,493	26.7%
Compound Annual Growth Rate	—	1.0%

Source: California Department of Finance, 2007 and 2012.

Population Growth Projections

ABAG periodically updates population growth projections for cities and counties in the San Francisco Bay Area. ABAG's population growth projections are used in regional planning efforts for issues such as transportation, air quality, and affordable housing. The most recent ABAG projections were adopted in 2013 as part of the Plan Bay Area effort. Table 3.5-3 summarizes the population growth projections for the City of Napa from 2010 to 2040. As shown in the table, ABAG forecasts the City's population to increase by 13,373 persons between 2010 and 2040, which translates to an increase of over 24 percent during this 30-year period.

Table 3.5-3: City of Napa Population Growth Projections

Year	Population	Change From Previous (Percent)
2010	76,915	—
2020	80,717	4.9%
2030	85,090	5.4%
2040	90,288	6.1%
Net Change 2010-2040	13,373	17.4%
Compound Annual Growth Rate	—	0.5%

Source: Association of Bay Area Governments, 2013.

Employment Growth Projections

ABAG also publishes employment growth projections for every jurisdiction in the San Francisco Bay Area. Table 3.5-4 summarizes the employment growth projections for the City of Napa for the 2010–2040 period. As shown in the table, ABAG projects the creation of 10,570 additional jobs within Napa during this 30-year period, an increase of approximately 31 percent.

Table 3.5-4: Napa Employment Growth Projections

Year	Employment	Change From Previous (Percent)
2010	33,950	—
2020	39,640	16.8%
2030	41,610	5.0%
2040	44,520	7.0%
Net Change	10,570	31.1%
Compound Annual Growth Rate	—	1.1%

Source: Association of Bay Area Governments, 2013.

Historic Housing Growth

The City’s housing stock increased by more than 21 percent between 1990 and 2014, growing at a compound annual growth rate of 0.8 percent. Housing development has slowed dramatically in recent years compared with previous decades. The City’s housing growth between 1990 and 2010 is summarized in Table 3.5-5.

Table 3.5-5: Napa Historic Housing Growth

Year	Dwelling Units	Change from Previous (Percent)
1990	24,924	—
2000	27,776	11.4%
2010	30,149	8.5%
2014	30,324	0.6%
Net Change 1990-2014	5,400	21.7%
Compound Annual Growth Rate	—	0.8%

Source: California Department of Finance, 2007 & 2012.

Regional Housing Needs Allocation

State law requires local governments to adopt plans and regulations to accommodate housing for persons of all income ranges. The State requires all cities and counties to periodically update the housing elements of their General Plans, which outlines the community’s strategy for addressing housing needs. The amount of housing that each jurisdiction must plan for in its housing element is determined through a process called the Regional Housing Needs Assessment (RHNA). In the RHNA process, the State assigns each region a share of the total state housing need based on growth trends.

In the nine-county San Francisco Bay Area region, ABAG is responsible for allocating each city and county targets for new housing by income range. The allocations are based on several factors, including projected household growth, existing and projected employment, and proximity to public transit.

In revising their housing elements, local governments must identify sufficient sites and housing policies that would enable the community to meet its housing needs. ABAG’s current RHNA was adopted as part of the Plan Bay Area Regional Transportation Plan/Sustainable Communities Strategy in 2013. The RHNA timeframe spans 8 years from 2015 to 2023. Each local government in the ABAG region is required to adopt a housing element update that identifies sufficient sites for residential development to accommodate the amount of new housing units assigned to it through the RHNA process.

Table 3.5-6 identifies Napa’s RHNA allocation (as well as the transferred County allocation) for the 2015–2023 Housing Element planning period.

Table 3.5-6: Regional Housing Needs Allocation (2015–2023)

RHNA	Very Low Income	Low Income	Moderate	Above Moderate	Total Units
City Need	185	106	141	403	835
County Transfers	16	10	10	21	57
Total City	201	116	151	424	892

Note:
The City of Napa and the County of Napa have entered into two separate transfer agreements for the transfer of 57 housing units from the County to the City.
Source: Associate of Bay Area Governments, 2013; City of Napa, 2014.

Potential Housing Sites

Section 6.2 and Appendix B of the draft Housing Element describe potential sites for housing development during the 2015–2023 planning period. The draft Housing Element identifies 51 potential housing sites that could accommodate development of 1,750 new housing units, which exceeds the portion of the City’s new housing need of 892 units (including transferred county units). The analysis demonstrates that there are available sites with appropriate zoning that could fully accommodate the City’s RHNA allocation for the planning period in all income categories, and no changes to zoning designations are proposed.

3.5.2 - Regulatory Setting

Local Regulations

General Plan

The Napa General Plan sets forth the following goals, policies, and programs related to population and the provision of suitable housing sites:

Land Use Element

- **Goal LU-3:** To maintain an even rate of development within the RUL [Rural Urban Limit] over the time frame of the General Plan.
 - **Policy LU 3.1:** The City shall endeavor to maintain an even rate of development within the RUL over the plan period.
 - **Policy LU-3.4:** The City shall provide for the efficient development and redevelopment of land within the RUL in order to allow job and housing growth through the end of the planning period.
 - **Policy LU-3.6:** The City shall maintain adequate supply of land designated for residential uses to accommodate the plan’s projected population growth. To this end, the City shall monitor the ability of the plan to achieve this growth through such means as monitoring of plan changes from residential to nonresidential designations, preparation and review of annual growth management reports, and other measures as appropriate, and shall undertake responsive actions as necessary.

- **Policy LU-3.7:** The City shall monitor county employment and housing development trends to evaluate their impacts on the city's jobs/housing balance.
- **Policy LU-3.8:** The City shall coordinate growth and development with surrounding jurisdictions, the Local Agency Formation Commission (LAFCO), Congestion Management Agency, Napa County Flood Control District, and other agencies as appropriate to maintain open space between communities and promote common goals.
- **Policy LU-3.9:** The City shall encourage the use of special committees, joint boards, and other efforts to coordinate the management of growth and development, especially in relation to jobs/housing balance, transportation, and flood control issues.

Housing Element

- **Goal H1: Napa is a vital and diverse community.**
 - **Program H1.A: Adequate Sites.** The City shall continue to provide and maintain adequate sites consistent with State law.
 - **Program H1.B: Future Land Use Planning.** The City shall address long-term housing needs in collaboration with the community through future Specific Plans or other Land Use plan updates, targeting major transportation corridors near services, large sites over 20 acres where services and transit can potentially be incorporated, and sites identified for potential *future* change in this Housing Element. All such plans shall specifically consider appropriateness of sites for multi-family use.
 - **Program H1.C: Local Housing Need.** To adequately provide housing for a variety of household types, including families and lower income households, and ensure the wise use of land resources, the City may require an applicant for development of land designated for higher density development (15 units per acre or more) to demonstrate how their project addresses local housing needs. The City may then consider actions or conditions to discourage development that is not responsive to local needs or other measures as appropriate.
 - **Program H1.D: Jobs-Housing Analysis.** During Specific Plans and major General Plan updates, the City shall analyze anticipated housing and job types, numbers and incomes and develop strategies to further address housing and jobs linkages.
- **Goal H2: We Have A Variety of Housing Types and Choices**
 - **Program H2.A: Adequate Sites for Multi-Family Use.** Before the next Housing Element update, the City shall analyze multi-family and mixed-use sites capacities and identify potential sites for multi-family use or where increased multi-family densities may be appropriate. Criteria shall include proximity to transit, services and jobs, environmental site constraints, and neighborhood "fair share." Additionally, during the next comprehensive update of the General Plan, the City will consider designating major commercial corridors, such as the Soscol Gateway and Tannery Bend areas for higher density housing and mixed use development. This program was designated as a priority by the Housing Element Advisory Committee.
 - **Program H2.B: New Rental Units.** The Housing Division and the Housing Authority shall assist with the construction of new affordable rental units for very low and low income renter households (including but not limited to service workers, farmworkers, developmentally disabled, seniors, etc.) by prioritizing applications of others for tax credits

and other federal/state funding, providing loans from the local Housing Trust fund and land banking sites. This program was designated as a priority by the Housing Element Advisory Committee.

- **Program H2.E: Identify Potential Acquisition Sites.** The City shall locate sites for possible acquisition by the City Housing Authority, and/or an affordable housing developer for affordable projects. The City may determine that it is appropriate to lease land, rather than sell it.
- **Program H2.F: Affordable Housing Overlay Zones.** The City shall amend the ordinance governing the “Affordable Housing Overlay Zones” as set forth under Napa Municipal Code Chapter 17.36 in order to bring its provisions into compliance with the requirements of the holding in *Palmer/Sixth Street Properties L.P. v City of Los Angeles*, 175 Cal.App.4th 1396 (2009) to clarify that any inclusionary requirements imposed under the Chapter shall not apply to rental developments, in order that the overlay may be used as a zoning tool to increase affordability of owner-occupied housing on an expanded number of sites. As a part of this review, the City shall review the minimum site size criteria and review the zoning map to identify potential additional sites for rezoning under the AH Overlay designation. The City shall consider options to maximize its benefit; for example — on Low Density sites — would current second unit provisions, or other options such as requiring small homes on some percentage of the lots, provide a greater affordable housing benefit?
- **Program H2.G: Long-Term Affordability Agreements and Monitoring.** The City shall continue to implement long-term agreements and/or deed restrictions with developers of affordable units that: govern unit affordability, monitor the continuing affordability of such units, and provide incentives for renewal of affordability agreements where feasible. Units currently restricted under City and other agreements are listed in Section 5 of this Housing Element. The City’s list of units for monitoring includes those multi-family rental units funded and restricted under Federal, State and/or local housing programs.
- **Goal H3: We Have Great Neighborhoods Offering a Variety of Nearby Services and Activities**
 - **Program H3.C: Housing Mix.** The City shall establish baseline housing mix information by neighborhood, and evaluate progress in achieving second units, residential care facilities, shared housing (to the extent it is regulated) and multi-family uses in all residential and mixed use areas of the City. Based on results of the review and community workshops, additional strategies may be formulated to increase the “fair share” mix.
 - **Program H3.D: New Second Units.** The City shall continue to encourage new subdivisions to include second units and to encourage other second units.
 - **Program H3.N: Retain Federal, State and Locally Subsidized Affordable Units.** The City shall, when feasible, continue to make it a priority to assist in retention of Federal, State and locally subsidized affordable housing when such units are threatened.
 - **Program H3.O: Rental Acquisition and Maintenance.** The City shall acquire or assist acquisition of existing market rate substandard rental housing to rehabilitate and restrict it as rentals for extremely low, very low and low income households. This program shall include development of requirements for high quality ongoing property management and maintenance. This program was designated as a priority by the Housing Element Advisory Committee.

- **Goal H5: We Have A Strong Sense of Community and Responsibility**
 - **Program H5.F: Database Monitoring.** The Planning Division of the City Community Development Department shall continue to update land use and other planning-related databases annually and integrate this in the City's GIS system in order to be able to:
 - a. Monitor conversions/loss of units to other uses;
 - b. Monitor housing development and needs achievements on an ongoing, rather than a periodic basis;
 - c. Monitor the supply of vacant and underutilized land (residential and non-residential) on an ongoing, rather than a periodic basis.

3.5.3 - Methodology

FirstCarbon Solutions evaluated potential impacts to population and housing through review of the existing general plan and proposed Housing element.

3.5.4 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to population and housing are significant environmental effects, the following questions are analyzed and evaluated. 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 housing, necessitating the construction of replacement housing elsewhere? (Refer to Section 7, Effects Found Not To Be Significant)
- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (Refer to Section 7, Effects Found Not To Be Significant)

3.5.5 - Project Impact Analysis and Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

Population Growth

Impact POP-1: Implementation of the Housing Element Update would not induce substantial population growth.

Impact Analysis

The draft Housing Element would not change allowable land uses or development patterns, nor propose any land use changes. The potential housing development sites described in the draft Housing Element are the same as those described in the Initial Study prepared for the 2009 Housing Element update. That Initial Study concluded that no impacts would occur with respect to inducement of population growth. In addition, the City's current land use designations are consistent with the Sustainable Communities Strategy and Regional Housing Needs Assessment.

Since the level of development anticipated in the draft Housing Element is the same as that anticipated in the 2009 Housing Element and is also consistent with regional plans, no new impacts would occur with regard to population growth.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

3.6 - Transportation and Traffic

This section describes the current transportation network and regulatory setting and summarizes the effects on transportation that would result from the implementation of the draft Housing Element on the project area and its surroundings. The descriptions and analysis in this section are based on the traffic analysis prepared by Kittelson & Associates, Inc. as provided in this section.

3.6.1 - Existing Conditions

This section describes the existing transportation-related context beginning with the street network that serves the City of Napa and surrounding communities. Existing transit service and bicycle and pedestrian facilities in the City are also discussed. Intersection and freeway levels of service are then defined and current roadway conditions are summarized.

Existing Roadway Network

The roadway network in Napa is made up of state highways, arterials, collectors, and local roads (Exhibit 3.6-1). Interstate 80 (I-80), located to the southeast of Napa is the nearest interstate highway and provides connection to the greater interstate highway network. I-80 can be accessed via two state highways that run through the study area: State Route 29 (SR-29) and SR-12. Besides these two state highways, SR-121 and SR-221, along with a number of arterials, also provide key local and regional connections for Napa.

State Highways

SR-29 is a north-south highway that provides connections between towns within Napa Valley, from Calistoga to the north to Vallejo and I-80 in the south. The section of SR-29 roughly between Trancas Street and SR-12/SR-121 operates as a freeway. This section of SR-29 has two mainline travel lanes in each direction. Within Napa's city limits, access to SR-29 is provided through eight interchanges or intersections. Segments of SR-29 operate concurrently with SR-12 or SR-121 in and near southern Napa.

SR-12 is an east-west highway that spans between the City of Santa Rosa in Sonoma County and the town of San Andreas in Calaveras County. It provides connections to Sonoma and US 101 to the west and to I-80 and Interstate 680 to the east. In the project area, SR-12 is a two-lane highway.

SR-121 extends from SR-37 in Sonoma County, through the City of Napa, to SR-128, which connects with Interstate 505 near Winters. In Napa, SR-121 changes directions after it joins SR-29. It first heads northward to its junction with W. Imola Avenue, then travels east as W. Imola Avenue until it reaches the northern terminus of SR-221 where it again turns northward and continues as Silverado Trail. SR-121 becomes Monticello Road outside Napa city limits and turns northeastward before reaching SR-128. SR-121 has two to four lanes in the study area.

SR-221 is a short four-lane highway in Napa that runs north-south between SR-121 (W. Imola Avenue) and SR-12/SR-29.

Arterials

Imola Avenue is a four-lane road between SR-29 and Soscol Avenue. This segment of Imola Avenue is a state highway (SR-121) and is divided by a median. The remainder of Imola Avenue is classified as an arterial road.

First Street is a two-lane arterial running east-west between Browns Valley Road and Silverado Trail. First Street is currently one-way in the westbound direction from California Boulevard to Main Street, forming a one-way couplet with the adjacent eastbound segment of Second Street in downtown Napa. The approved Two-Way Conversion Project (scheduled fall 2014/spring 2015) will reinstate two-way traffic on First Street and Second Street between Jefferson Street and Main Street. The segment of First Street from California Boulevard to Jefferson Street will remain a one-way street in the westbound direction until an approved project (scheduled for 2017) reverses the one-way direction of it, as well as the adjacent segment couplet of Second Street.

Jefferson Street is an arterial road that runs parallel to SR-29 in the north-south direction from Salvador Avenue to its terminus south of Imola Avenue. Jefferson Street varies between two and four lanes.

Lincoln Avenue is classified as a four-lane arterial running in the east-west direction between SR-29 and SR-121.

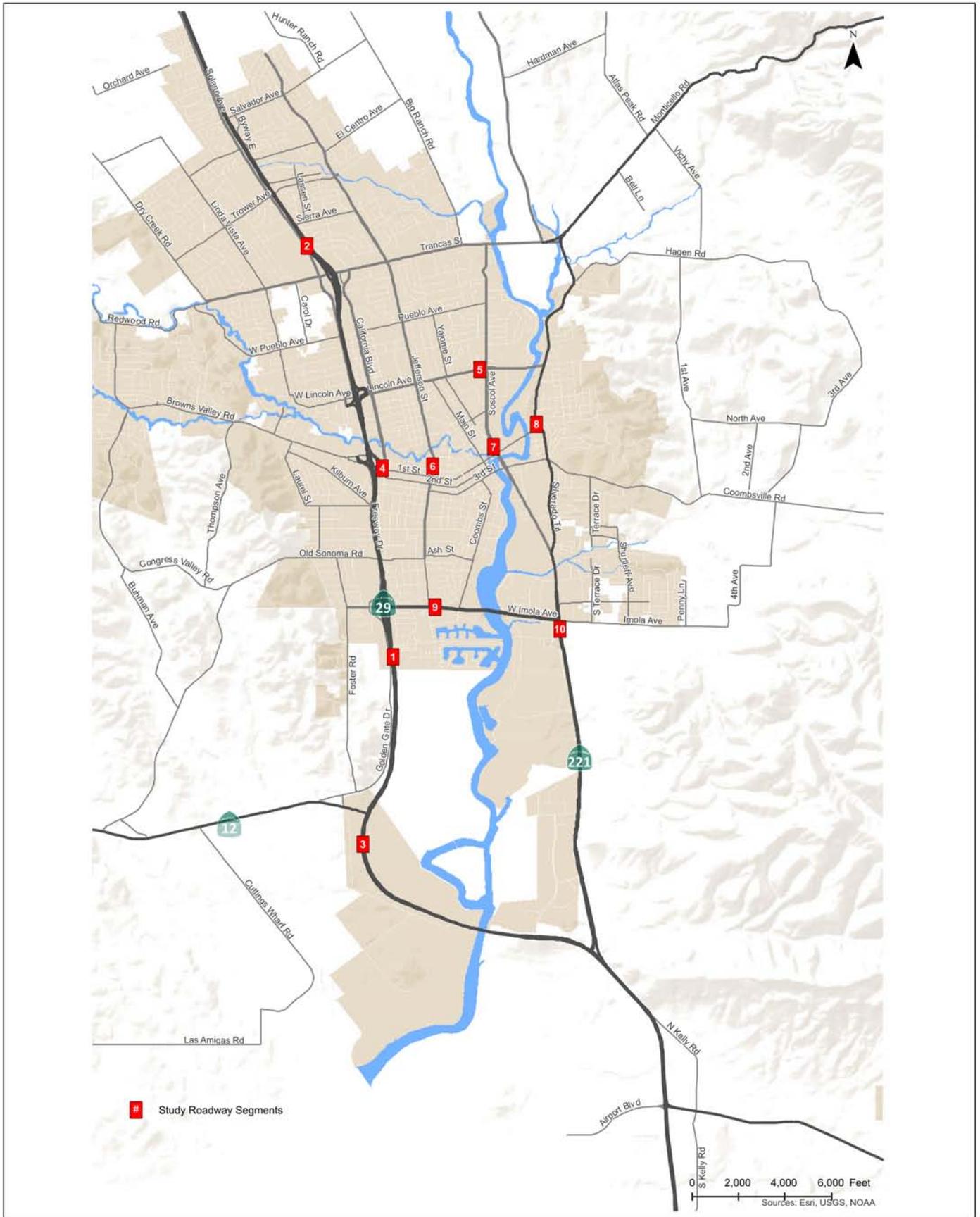
Soscol Avenue is a four-lane divided arterial running in the north-south direction on the east side of the City from Trancas Street to Silverado Trail, parallel to SR-29. The segment of Soscol Avenue from Silverado Trail to Imola Avenue is a state highway (SR-121).

Trancas Street is a divided four-lane arterial running in the east-west direction between SR-29 and SR-121. West of SR-29, Trancas Street becomes Redwood Road.

Existing Transit Service

VINE Transit provides fixed-route bus services within Napa and throughout the region. It offers eight local routes within the City of Napa, five regional routes connecting Napa with Solano, Sonoma, Contra Costa and greater Napa Counties, and four shuttle routes serving other Napa County communities. The regional routes provide direct connection to the Bay Area Rapid Transit (BART) system via the El Cerrito del Norte BART station and to the San Francisco Bay Ferry at the Vallejo Ferry terminal.

VINE operates two transfer hubs within Napa: Soscol Gateway Transit Center in downtown Napa and Trancas Park and Ride Lot at the junction of Redwood Road and Trancas Street just off SR-29. All local and regional bus routes have stops at one or both transit hubs providing transfer opportunities to riders. Transit routes within Napa are shown in Exhibit 3.6-2.



Source: Kittelson & Associates, Inc., August 2014

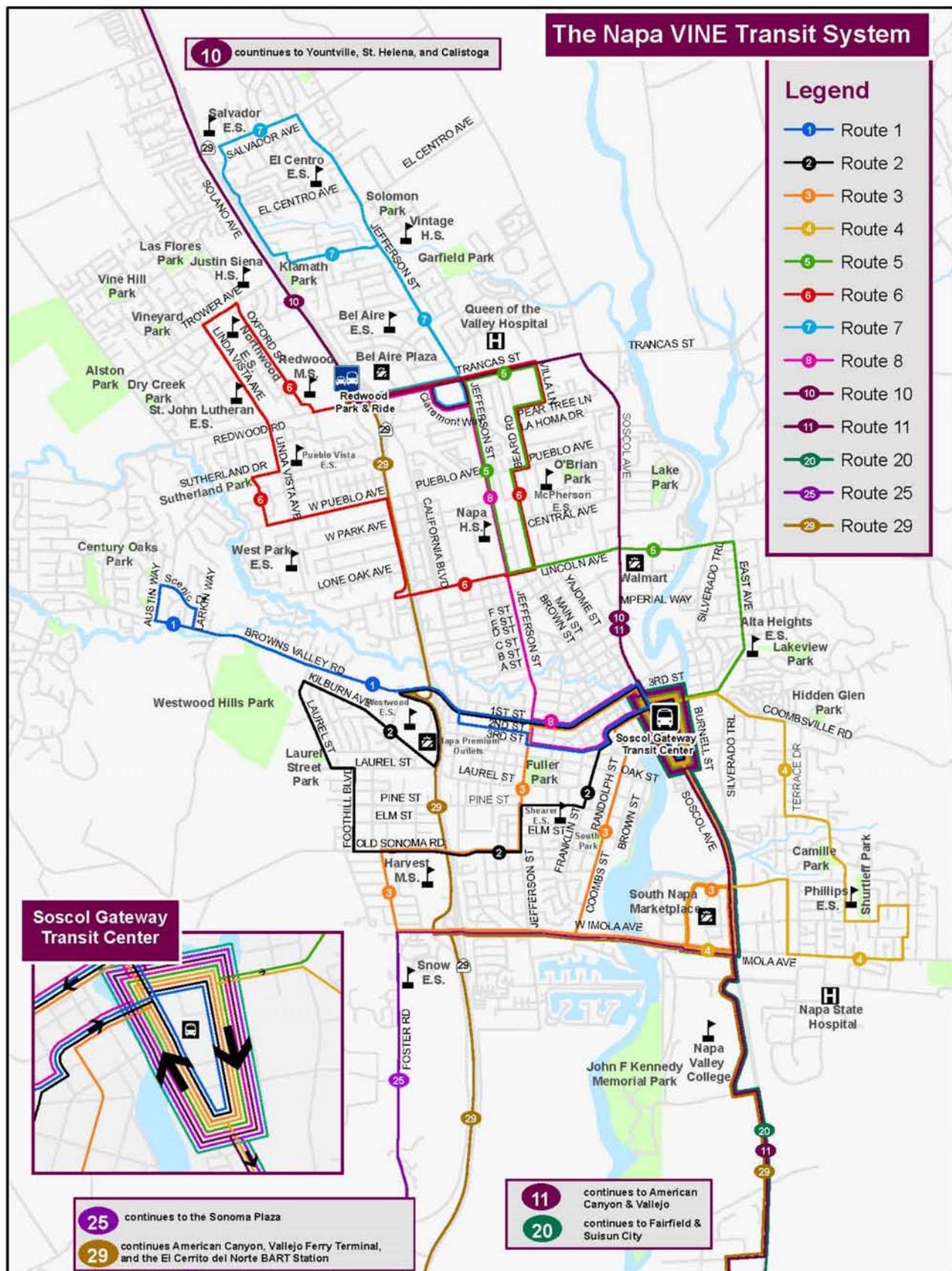


Exhibit 3.6-1 Study Roadway Segments

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The Napa VINE Transit System

- ### Legend
- 1 Route 1
 - 2 Route 2
 - 3 Route 3
 - 4 Route 4
 - 5 Route 5
 - 6 Route 6
 - 7 Route 7
 - 8 Route 8
 - 10 Route 10
 - 11 Route 11
 - 20 Route 20
 - 25 Route 25
 - 29 Route 29



10 continues to Yountville, St. Helena, and Calistoga



25 continues to the Sonoma Plaza
 29 continues American Canyon, Vallejo Ferry Terminal, and the El Cerrito del Norte BART Station

11 continues to American Canyon & Vallejo
 20 continues to Fairfield & Suisun City



Exhibit 3.6-2
 Napa VINE Transit System – Fixed Routes

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Existing Bicycle and Pedestrian Facilities

The City of Napa Bicycle Plan (May 2012) was developed as a component of the Countywide Bicycle Plan Update to guide the development of bicycle facilities, policies, programs and design standards. Its principal goal is to increase the use of bicycles for transport to work and school, for recreation, or any other purposes. The Plan has identified existing and planned bikeway facilities in Napa. Bicycle facilities are defined as the following three classes according to Chapter 1000 of the California Department of Transportation (Caltrans) Highway Design Manual:

- Class I – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
- Class II – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.
- Class III – Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.

Pedestrian facilities within Napa consist of sidewalks, which are generally provided on both sides of the street throughout the City. However, sidewalks are not present in some older residential neighborhoods.

Existing Traffic Conditions

The evaluation of traffic operations in Napa for the Housing Element is based on traffic flow on selected road segments representing a variety of geographic areas of the City. Ten freeway and street segments (Table 3.6-1) were selected for evaluation upon consultation with City staff. The segments were selected based upon anticipated volumes and distributional patterns of project-generated traffic.

For evaluation of traffic impacts for specific land use development projects, traffic operations are typically analyzed in terms of delay at specific street intersections. Intersection analysis is emphasized in the City of Napa General Plan as well as in the City's "Policy Guidelines: Traffic Level of Service (LOS) Criteria for Private Development Review." Intersection analysis is most appropriate for conditions where the project site design and access to the street system is well defined, allowing for estimates of changes in traffic volumes on specific intersection approaches and turn movements. For an assessment of a less specific land use proposal, such as this Housing Element update or a General Plan update, it is common practice to base the traffic evaluation on a more generalized road segment analysis, which relies less on specific assumptions about site design and driveway access. Both the intersection analysis and the road segment analysis can be based on methodologies contained in the Highway Capacity Manual, consistent with General Plan policies.

Traffic Counts

Weekday morning (AM) and afternoon (PM) peak-hour volumes at the study segments were compiled from recent studies and from Caltrans. The ten segments and their data sources are listed in Table 3.6-1. The existing AM and PM peak-hour volumes are presented in Exhibit 3.6-3.

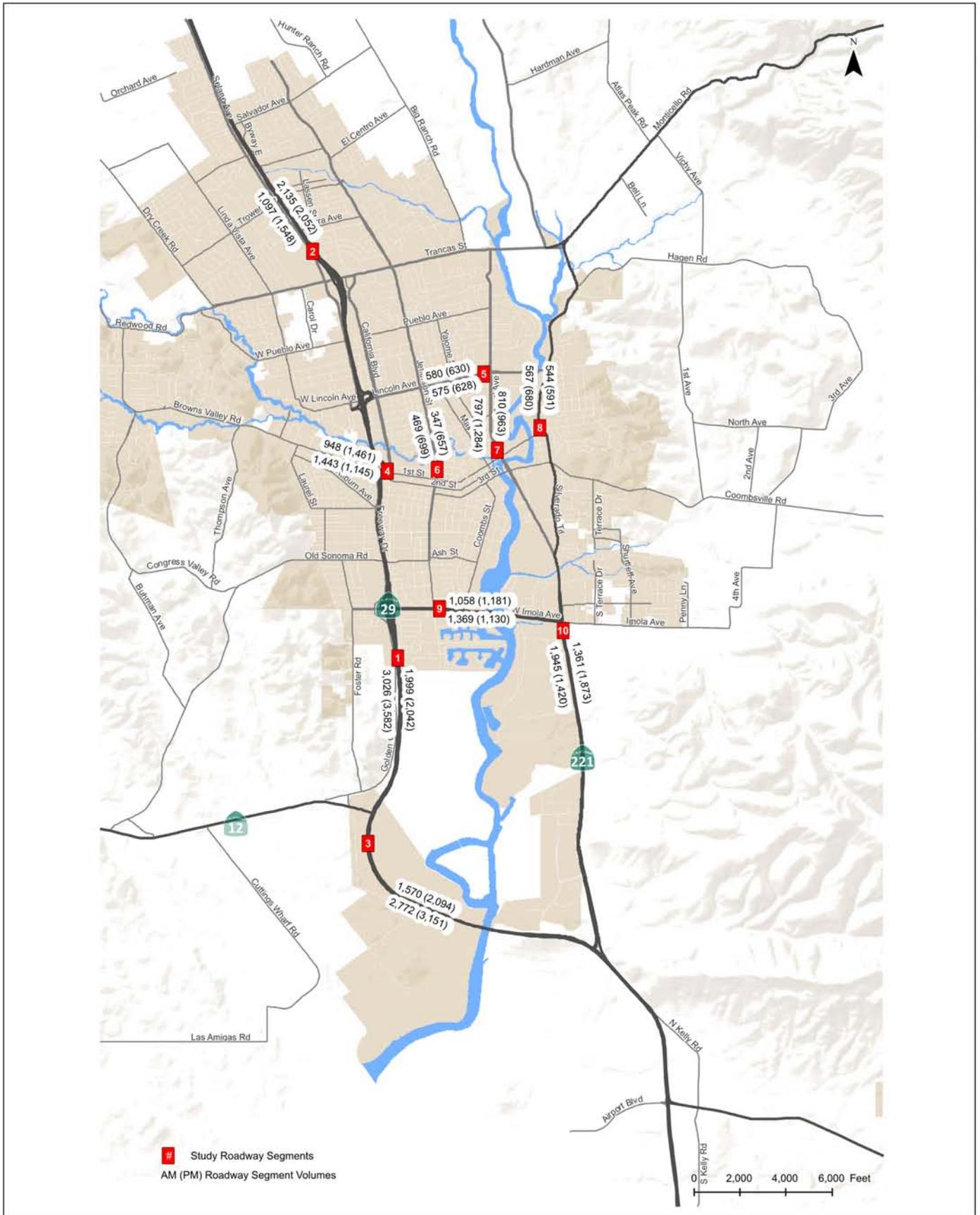
With the exception of data obtained from Caltrans’s Performance Measurement System (PeMS) system, the segment volumes were derived from peak-hour turning movement volumes at adjacent intersections obtained from the reports. For the SR-29 segment north of Trancas Avenue (#2), an average of the counts reported in Caltrans’s PeMS for a three-day, mid-week (Tuesday–Thursday) period were used to calculate the AM and PM peak-hour volumes.

Table 3.6-1: Study Segments and Data Sources

#	Study Segment	Collection Date	Source
1	SR-29 south of SR-121/W Imola Ave	Sept–Oct 2009	Traffic Impact Study for EIR Napa Quarry Expansion (Winzler & Kelly, August 2013)
2	SR-29 north of Trancas St	Feb–Mar 2014	Caltrans’s Performance Measurement System (PeMS)
3	SR-12 south of SR-29/SR-121 Junction	Sept–Oct 2009	Traffic Impact Study for EIR Napa Quarry Expansion (Winzler & Kelly, August 2013)
4	First St west of California Blvd	May 2011	Napa County Health and Human Services Agency Campus Project EIR (LSA Associates, August 2012)
5	Lincoln Ave west of Soscol Ave	October 2011	MTC PASS for City of Napa and Caltrans Task 4B: Final Project Report with Benefit/Cost Analysis (TJKM, July 20, 2012)
6	Jefferson St north of Clay St	May 2011	Napa County Health and Human Services Agency Campus Project EIR (LSA Associates, August 2012)
7	Soscol Ave north of First St	October 2011	MTC PASS for City of Napa and Caltrans Task 4B: Final Project Report with Benefit/Cost Analysis (TJKM, July 20, 2012)
8	SR-121 north of First St	October 2011	MTC PASS for City of Napa and Caltrans Task 4B: Final Project Report with Benefit/Cost Analysis (TJKM, July 20, 2012)
9	SR-121/W Imola Ave east of Jefferson St	May 2011	Napa County Health and Human Services Agency Campus Project EIR (LSA Associates, August 2012)
10	SR-221 south of SR-121/W Imola Ave	Sept–Oct 2009	Traffic Impact Study for EIR Napa Quarry Expansion (Winzler & Kelly, August 2013)

Source: Kittelson & Associates, 2014.

Most of the counts were collected within the last three years. Traffic counts from the prior three years are generally considered acceptable for application as long as no major changes in land use development or roadway network modifications have been made during that time frame, as is the case in Napa. For the three counts collected in 2009, an assessment was made to determine if any growth adjustment would be necessary in order to better represent current traffic volume levels for this study. A comparison of study segment volumes from the 2009 City Traffic Count Map and the other more recent count sources shows a downward trend on state routes and local streets. To confirm this trend, a comparison was made using Caltrans’s peak-hour counts on selected segments in Napa between 2008 and 2012.



Source: Kittelson & Associates, Inc., August 2014



Exhibit 3.6-3 Study Roadway Segments— Existing Volumes

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This evaluation also showed an average downward trend in peak-hour volumes during this period. This gradual downward trend was a result of the economic recession in recent years and is consistent with traffic volumes trends observed throughout the Bay Area. While there has been a more recent upturn of economic activities and traffic, the traffic volumes in most areas have not reached pre-recession or even early recession levels. Based on this finding, this analysis applied the 2009 counts without adjustments, on the assumption that the 2009 traffic counts represent a conservative assessment of current (2014) conditions.

Level of Service

Level(s) of service (LOS) is a qualitative assessment of the motorists and passengers’ perceptions of traffic conditions. It is generally described in terms of travel time and speed, freedom to maneuver, traffic interruptions, comfort, and convenience. LOS applies quantifiable traffic measures such as average speed, intersection delays, and volume-to-capacity ratios to approximate driver satisfaction. These measures differ by roadway type because the user’s perceptions and expectations vary by roadway type.

LOS range from A (best) to F (poorest). Levels of service A, B, and C indicate conditions where traffic can move relatively freely. LOS D describes conditions where delay is more noticeable. LOS E describes conditions where traffic volumes are at or close to capacity, resulting in significant delays and unstable traffic flow. LOS F characterizes conditions where traffic demand exceeds available capacity, with very slow speeds (stop and go) and long delays and queuing at signalized intersections or on freeways and highways.

Traffic Operations Analysis Methodology

LOS for freeway and roadway segments were determined using the 2010 Highway Capacity Manual (HCM) Basic Freeway Segment and Urban Street Segment methodologies. The LOS criteria are presented in Table 3.6-2 and Table 3.6-3. The analysis included confirmation of several typical values (speed, signal spacing, signal cycle length, and presence of turn lanes) for the specific roadway segments in the City of Napa. The specific thresholds for each LOS were calculated using the ARTPLAN software developed by the Florida Department of Transportation, which is designed to support planning-level applications of the 2010 HCM analysis methodology. The applicable volume thresholds for each study segment, which take into account the different characteristics of the segments as consistent with the HCM methodologies, are presented in Table 3.6-4.

The directional volumes for the study segments during the AM and PM peak hours as well as the resulting level of service under existing conditions are presented in Table 3.6-5. All study segments are operating at LOS D or better under existing conditions.

Table 3.6-2: Level of Service Criteria for Basic Freeway Segments

Level of Service	Density Range (pc/mi/ln)
A	0–11
B	> 11–18

Table 3.6 2 (cont.): Level of Service Criteria for Basic Freeway Segments

Level of Service	Density Range (pc/mi/ln)
C	> 18–26
D	> 26–35
E	> 35–45
F	> 45

Note:
pc/mi/ln = passenger car per mile per lane
Source: Highway Capacity Manual 2010, 11-7.

Table 3.6-3: Level of Service Criteria for Automobiles on Urban Street Segments

Travel Speed as a Percentage of Base Free-Flow Speed (%)	Level of Service by Volume to Capacity Ratio ^a	
	0 to 1.0	> 1.0
> 85	A	F
> 67–85	B	F
> 50–67	C	F
> 40–50	D	F
> 30–40	E	F
0–30	F	F

Note:
^a Volume-to-capacity ratio of through movement at downstream boundary intersection
Source: Highway Capacity Manual 2010, Exhibit 17-2, page 17-7.

Table 3.6-4: Level of Service Criteria for Study Segments

#	Street Name	Study Segment	Lanes	Level of Service Volume Threshold				
				A	B	C	D	E
Freeway								
1	SR-29	North of Trancas St	2	*	3,260	4,020	4,660	4,940
2	SR-29	South of SR-121/W Imola Ave	2	*	2,260	3,020	3,660	3,940
Highway								
3	SR-29	South of SR-12/SR-121 Junction	2	*	1,810	2,560	3,240	3,590

Table 3.6 4 (cont.): Level of Service Criteria for Study Segments

#	Street Name	Study Segment	Lanes	Level of Service Volume Threshold				
				A	B	C	D	E
Arterials								
4	1st Street	West of California Blvd	2	*	1,110	1,760	*	*
5	Lincoln Ave	West of Soscol Ave	2	*	390	1,020	*	*
6	Jefferson St	North of Clay St	2	*	390	1,020	*	*
7	Soscol Avenue	North of 1st Street	2	*	*	2,101	2200	*
8	SR-121	North of 1st Street	1	60	700	740	*	*
9	SR-121/W Imola Ave	East of Jefferson St	2	*	1,110	1,760	*	*
10	SR-221	South of SR-121/W Imola Ave	2	*	*	2,101	2200	*
<p>Note:</p> <p>* LOS is based on travel speed relative to free-flow speed (no stopping). Freeways and highways can travel at or very near their free flow speeds (LOS A or B) if there is no congestion. Arterials can never travel at or near free-flow speeds (LOS A) because of the presence of intersections. A very good LOS A or B cannot be achieved on an arterial street if there are closely-spaced intersections, which do not allow travel at or near free-flow speeds even if there are very low traffic volumes. An arterial street with long distances between intersections can allow travel at speeds near free-flow speeds (LOS B or C) at low traffic volumes, but can very quickly break down to LOS F if there is low capacity at the endpoint intersections, in which case there will be no traffic volume level that results in LOS D or E operations. Therefore, for roadway segments, certain LOS cannot be achieved.</p> <p>Source: 2010 Highway Capacity Manual Urban Street Segment methodology as implemented in ARTPLAN software.</p>								

Table 3.6-5: Existing Level of Service – Roadway Segments

#	Segment	Location	Direction	Peak Hour	Existing Conditions	
					Volume	LOS
Freeway						
1	SR-29	N. of Trancas St.	NB	AM	2,135	B
				PM	2,052	B
			SB	AM	1,097	B
				PM	1,548	B
2	SR-29	S. of SR-121/W. Imola Ave.	NB	AM	1,999	B
				PM	2,042	B
			SB	AM	3,026	D
				PM	3,582	D

Table 3.6 5 (cont.): Existing Level of Service – Roadway Segments

#	Segment	Location	Direction	Peak Hour	Existing Conditions	
					Volume	LOS
Highway						
3	SR-29	S. of SR-12/SR-121 Junction	NB	AM	1,570	B
				PM	2,094	C
			SB	AM	2,772	D
				PM	3,151	D
Arterial						
4	1st Street	W. of California Blvd.	EB	AM	1,443	C
				PM	1,145	C
			WB	AM	948	B
				PM	1,461	C
5	Lincoln Avenue	W. of Soscol Ave.	EB	AM	575	C
				PM	628	C
			WB	AM	580	C
				PM	630	C
6	Jefferson Street	N. of Clay St.	NB	AM	347	B
				PM	657	C
			SB	AM	469	C
				PM	699	C
7	Soscol Avenue	N. of 1st St.	NB	AM	810	C
				PM	963	C
			SB	AM	797	C
				PM	1,284	C
8	Silverado Trail (SR-121)	N. of 1st St.	NB	AM	544	B
				PM	591	B
			SB	AM	567	B
				PM	680	B
9	W. Imola Avenue (SR-121)	E. of Jefferson St.	EB	AM	1,369	C
				PM	1,130	C
			WB	AM	1,058	B
				PM	1,181	C

Table 3.6 5 (cont.): Existing Level of Service – Roadway Segments

#	Segment	Location	Direction	Peak Hour	Existing Conditions	
					Volume	LOS
10	SR-221	S. of SR-121/W. Imola Ave.	NB	AM	1,361	C
				PM	1,873	C
			SB	AM	1,945	C
				PM	1,420	C

Source: Kittelson & Associates, 2014.

3.6.2 - Regulatory Setting

The transportation system in the study area is under the jurisdiction of state, regional, and local agencies and is regulated by a number of plans and policies. These agencies, plans, and policies are described in this section.

State Regulations

California Department of Transportation (Caltrans)

Caltrans is responsible for the planning, design, construction, and maintenance of all state highways. The Guide for the Preparation of Traffic Impact Studies (Guide) provides consistent guidance for Caltrans staff for reviews of local development and land use change proposals (Caltrans 2002). The Guide also informs local agencies about the information needed for Caltrans to analyze the traffic impacts to state highway facilities, including freeway segments, on- or off-ramps, and signalized intersections. Caltrans facilities in the study area include SR-29, SR-12, SR-121, and SR-221.

The Guide states that “Caltrans endeavors to maintain a target level of service (LOS) at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing Measure of Effectiveness (MOE) should be maintained.”

Local Regulations

Napa County Transportation and Planning Agency (NCTPA)

The NCTPA is Napa County’s congestion management agency. In this role, NCTPA is responsible for countywide transportation planning, congestion management, and design and construction of transportation improvements. NCTPA also operates VINE Transit, Napa area’s bus system.

City of Napa

General Plan

The three major transportation objectives of the General Plan Transportation Element are to:

- Develop a transportation infrastructure that provides for an acceptable traffic flow and provides access to all destinations,
- Create a city-wide transportation system that allows users to choose from a variety of safe transportation options including an adequate system of streets, transit, pedestrian and bicycle facilities and
- Minimize the negative effects of additional automobile traffic and other transportation.

The City's General Plan goals and policies further articulate how transportation planning is approached in the City. The goals and policies relevant to the proposed project are provided below.

- **Goal T-1:** To provide for extension and improvement of the City's roadway system to ensure the safe and efficient movement of people and goods.
- **Goal T-2:** To maintain an adequate road system that is attractive and provides for efficient movement of people, goods, and services within the City, and adequate connections to the region and state.
 - **Policy T-2.1.** The City shall ensure that traffic levels of service (LOS) will not exceed midrange LOS D at all signalized intersections on arterial and collector streets with the following exceptions, where midrange LOS E will be permitted:
 - a. Downtown Napa within the area bounded by Soscol Avenue, First Street, California Boulevard and Third Street;
 - b. Jefferson Street between Third Street and Old Sonoma Road; and
 - c. Silverado Trail between Soscol Avenue and First Street.
 - **Policy T-2.2.** The City shall ensure that all new development and redevelopment will meet adopted service levels (LOS) for transportation facilities unless findings are made that achieving other specific public goals found in this General Plan outweigh this requirement.
- **Goal T-3:** To maintain acceptable traffic flow along Napa's crucial corridors.
- **Goal T-4:** To protect residential neighborhoods from high-volume and high-speed traffic and its effects.
- **Goal T-5:** To develop and maintain an efficient and convenient transit system providing alternatives to the use of the personal automobile to residents, workers, and visitors within the City, with connections to Napa County and the region.
- **Goal T-6:** Establish a comprehensive, safe, connected countywide bicycle transportation and recreation system to support increase in bicycle trips made throughout the County to 10 percent of all trips by 2035.
- **Goal T-8:** Develop and enhance opportunities for bicyclists to easily access public transit and other transportation resources.
- **Goal T-11:** Support and strengthen local land use policies for compact, mixed-use development in appropriate areas, and for designing and constructing bicycle facilities in new development projects.
- **Goal T-16:** To provide an interconnected pedestrian network providing safe access between residential areas, public uses, shopping and employment centers with special attention to a high quality downtown pedestrian environment with links to neighborhoods.

- **Goal T-17:** To provide convenient access for residents and businesses to a variety of modes of transportation.

3.6.3 - Methodology

In accordance with CEQA, the effects of a project are evaluated to determine whether they will result in a significant adverse impact on the environment. While the City of Napa Traffic Study Guidelines has indicated a preference for intersection analysis, the City has found segment analysis to be appropriate for this study. Analysis of roadway segments is appropriate at a programmatic level and provides adequate information to assess the overall functionality of the roadway. Flow rates of roadway segments verify the functionality of the intersections in dispersing traffic flow. As future development occurs, project-specific intersection analysis can be completed to delineate the need for specific improvements.

Unlike development projects for which site plans and development timing and phasing are usually available, it is understandable that such details are not known for General Plan level studies such as this Housing Element Update project. Therefore, it is common practice that segment-based analyses are performed for General Plan level studies.

3.6.4 - Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if the Project would:

Level of Service Criteria

- a. Cause an arterial or collector street to exceed LOS D except where LOS E is permitted per City's General Plan as identified below:
 - Downtown Napa within the area bounded by Soscol Avenue, First Street, California Boulevard, and Third Street
 - Jefferson Street between Third Street and Old Sonoma Road
 - Silverado Trail between Soscol Avenue and First Street
- b. Cause a state highway facility to exceed LOS E
- c. Under Cumulative Conditions, add 50 or more trips to a roadway segment that is projected to operate below the acceptable standard

Crucial Corridor Criteria

- a. Generate more than 520 trips/gross acre/day if located on a Crucial Corridor and the property is zoned Traffic Impact Overlay (TI). Crucial Corridors are identified below:
 - W. Imola Avenue (SR121) – from west of Lernhart Street to Soscol Avenue
 - Trancas Street – from SR-29 to Soscol Avenue
 - Lincoln Avenue – from Jefferson Street to Silverado Trail
 - Jefferson Street – from Trancas Street to Imola Avenue
 - Soscol Avenue – from north of Lincoln Avenue to Imola Avenue
 - Silverado Trail (SR121) – from Soscol Avenue to Trancas Street

Pedestrian Impact Criteria

- a. Disrupt existing, or interfere with planned pedestrian facilities
- b. Create a high demand for pedestrian facilities at locations that lack pedestrian facilities, or
- c. Create inconsistencies with adopted pedestrian system plans, guidelines, policies or standards

Bicycle Impact Criteria

- a. Disrupt existing, or interfere with planned bicycle facilities; or
- b. Create inconsistencies with adopted bicycle system plans, guidelines, policies or standards

Transit Impact Criteria

- a. Disrupt existing, or interfere with planned transit services or facilities
- b. Create demand for public transit services above that which is provided or planned, or
- c. Create inconsistencies with adopted transit system plans, guidelines, policies or standards.

Transportation Issues not Further Analyzed

Since the project only includes housing development sites and the maximum density allowed in the General Plan for these housing sites would not generate 520 or more trips per gross acre per day (equal to approximately 78 dwelling units per acre), the project's impacts on Crucial Corridors were not assessed.

In addition, the following CEQA Appendix G checklist questions were found to have no impact:

Would the project:

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? (Refer to Section 7.0, Effects Found Not To Be Significant.)
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (Refer to Section 7.0, Effects Found Not To Be Significant.)
- Result in inadequate emergency access? (Refer to Section 7.0, Effects Found Not To Be Significant.)

3.6.5 - Project Impact Analysis and Mitigation Measures

This section presents the potential transportation-related impacts from implementation of the Housing Element based on the applicable significance criteria previously described. Impact analysis was performed for existing and cumulative conditions. Specifically, the transportation conditions were assessed for the following scenarios:

- Existing conditions
- Existing plus Project Conditions – Existing conditions with identified housing sites

- Future Cumulative Conditions – Future conditions including identified housing sites and pending/approved developments

The impact analysis describes the methodologies used to assess components of the overall transportation system, summarizes the potential project impacts and recommends mitigation measures that lessen the identified significant project impacts.

Methodology for Analysis

Project Traffic

The proposed project comprises sites for up to 1,750 potential dwelling units located throughout Napa. The trip generation of the project was estimated based upon information compiled by the Institute of Transportation Engineers (ITE) (Trip Generation Manual, 9th Edition, 2012) and presented in Table 3.6-6, which shows the 1,750 units grouped into twelve areas based on geographic locations. The housing sites are projected to generate about 11,729 daily vehicle trips with 893 during the AM peak hour and 1,124 during the PM peak hour. Vehicular trips generated by the project were distributed onto the roadway network using the Solano-Napa Travel Demand Model.

Travel Forecasting Approach

Project and cumulative volume forecasts for the study roadway segments were estimated based on the most current available Solano-Napa Travel Demand Model. For the Existing plus Project analysis, the 1,750 potential housing units were added to the model's 2010 base year land uses. The model was then applied to generate traffic forecasts. The model forecasts were not used directly; rather, the incremental traffic volumes between the 2010 base and the 2010 with housing scenarios were extracted for each study segment. These traffic increments were then added to the existing (2014) traffic volumes based on traffic counts. The resulting existing plus project volumes on the study freeway and roadway segments are presented in Exhibit 3.6-4.

The cumulative analysis includes regional growth through Year 2023; however, as Year 2023 is not a horizon year provided in the model, the cumulative land use forecasts were developed using a straight line interpolation process between the Year 2010 and Year 2030 model land use forecasts. The estimated 2023 land uses in the model were first reviewed to determine if any of the 1,750 proposed units were already included before they were added into the model in order to ensure the housing units are not double counted. For the cumulative analysis, the assumptions for other known major development projects and other potential residential units in Napa were also checked and added into the model as needed. These pending and approved developments and residential units are described in Table 3.6-7 and Table 3.6-8.

Similar to the analysis of Existing with Project conditions, the cumulative traffic forecasts were developed by adding the increments between model base year without Project and model Cumulative with Project to the traffic counts. The cumulative resulting volumes on the study freeway and roadway segments are presented in Exhibit 3.6-5.

Table 3.6-6: Trip Generation for Housing Sites

Land Use	ITE Code	Quantity	Daily		AM Peak Hour		PM Peak Hour	
			Rate	Trips	Rate	Trips	Rate	Trips
ALTA HEIGHTS AH 104								
Apartment	220	45	8.81	396	0.57	26	0.94	42
BEARD B 77								
Apartment	220	92	6.65	612	0.51	47	0.62	57
BEARD B 81								
Apartment	220	80	7.60	608	0.54	43	0.77	62
Condominium/Townhome	230	71	5.81	413	0.44	31	0.52	37
TOTAL		151	—	1,021	—	74	—	99
BEARD B 84 AND B 86								
Apartment	220	8	6.65	53	0.51	4	0.62	5
Mobile Home Park	240	20	4.99	100	0.44	9	0.59	12
TOTAL		28	—	153	—	13	—	17
CENTRAL NAPA CN 142, CN 151, CN 161, AND CN 163								
Apartment	220	83	7.55	627	0.53	44	0.76	63
Condominium/Townhome	230	102	6.42	654	0.51	52	0.60	61
TOTAL		185	—	1,281	—	97	—	124
LINDA VISTA LV 13								
Apartment	220	14	6.65	93	0.51	7	0.62	9
PUEBLO P 61								
Apartment	220	18	6.65	120	0.51	9	0.62	11
Condominium/Townhome	230	34	7.40	252	0.64	22	0.73	25
TOTAL		52	—	371	—	31	—	36
GASSER MASTER PLAN MU 532								
Apartment	220	489	6.31	3,087	0.50	243	0.59	287
TERRACE SHURTLEFF TS 175, TS 177								
Apartment	220	105	7.24	760	0.53	55	0.72	75
VINTAGE V 21, V 24, V 37								
Apartment	220	155	6.86	1,063	0.51	80	0.66	103

Table 3.6 6 (cont.): Trip Generation for Housing Sites

Land Use	ITE Code	Quantity	Daily		AM Peak Hour		PM Peak Hour	
			Rate	Trips	Rate	Trips	Rate	Trips
VINTAGE V 33H								
Apartment	220	57	8.23	469	0.56	32	0.86	49
WESTWOOD W 113, 114, 132								
Apartment	220	328	6.44	2,111	0.50	164	0.60	198
WESTWOOD W 126 AND MU 475								
Apartment	220	32	6.65	213	0.51	16	0.62	20
Condominium/Townhome	230	17	5.81	99	0.44	7	0.52	9
TOTAL		49	—	312	—	24	—	29
TOTALS								
All Land Uses	—	1,750	—	11,729	—	893	—	1,124
Source: Trip Generation Manual, 9 th edition, Institute of Transportation Engineers, 2012.								

Table 3.6-7: Known Major Pending and Approved Developments

Pending/Approved Project	Land Use	Status
Archer Hotel	186-room hotel	Approved
Ritz Carlton Hotel	351-room hotel 40,500 sf of retail space 52,684 sf of banquet/meeting space	Approved
St. Regis Hotel	150-room hotel 95 vacation homes 25,000 case winery	Approved
Napa Crossings South	83,000 sf of retail space	Completed
Solano Square at Justin-Siena	26,400 sf grocery store 48,500 sf hardware supply store 3,000 sf retail space	In-Progress
Hampton Inn and In Shape	115-room hotel 38,000 sf fitness center	Approved, under construction
Napa Pipe		
Phase 1	154,000 sf retail (Costco)	In-Progress
Phase 2	40,000 sf neighborhood retail 150-unit continuing care facility 350 dwelling units	

Table 3.6 7 (cont.): Known Major Pending and Approved Developments

Pending/Approved Project	Land Use	Status
Phase 3	90,000 sf office space 350 dwelling units	In-Progress
Phase 4	75,000 sf light industrial/research & development 250 dwelling units	
County Jail Facility	526-bed jail	In-Progress
Note: sf = square feet Source: City of Napa, April 10 and May 19, 2014.		

Table 3.6-8: Potential Future Housing Sites

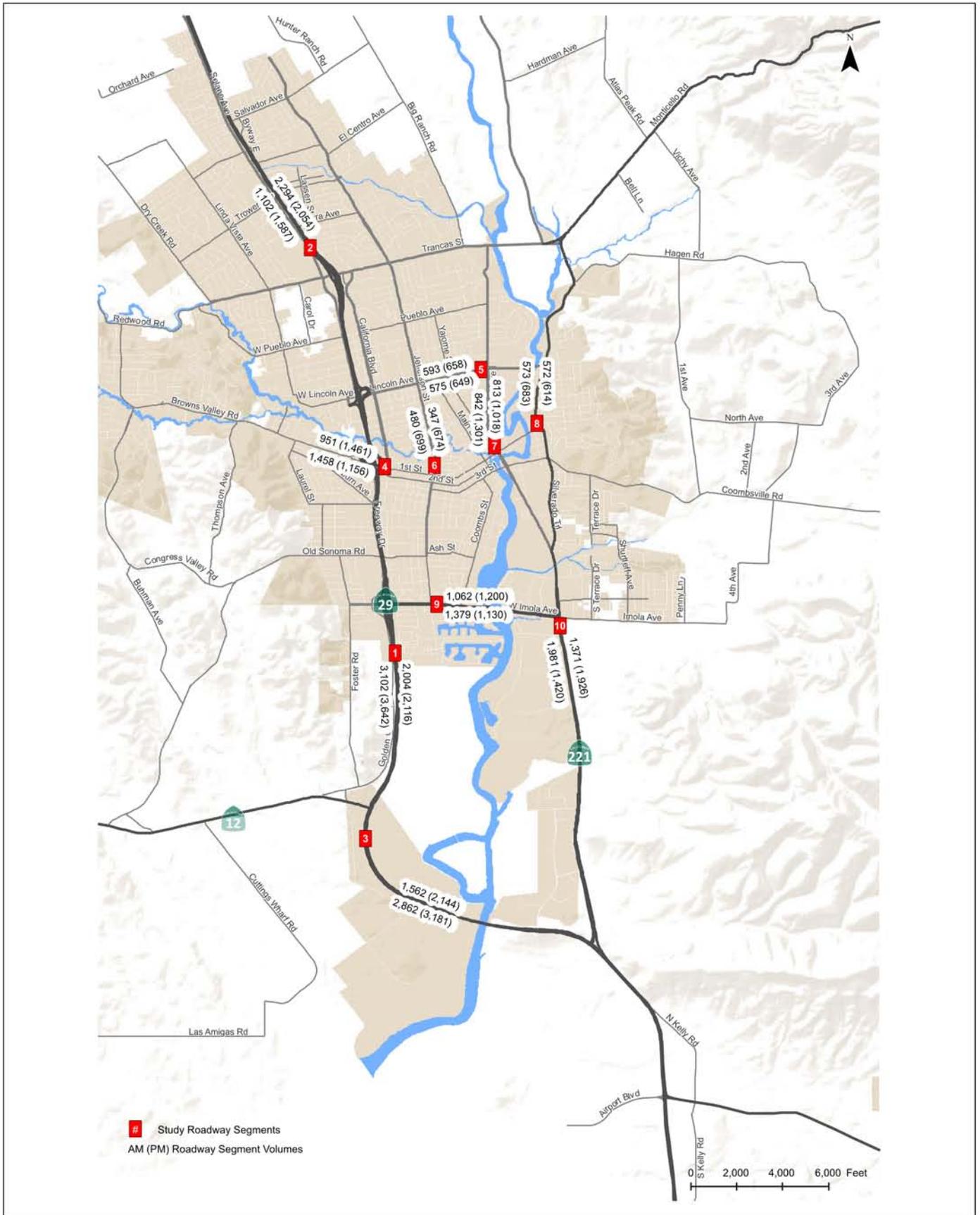
Project/Plan Area	Number of Dwelling Units
Beard Community Commercial	24
Central Napa Outside Downtown Specific Plan Area	161
Soscol Mixed Use	62
Downtown Specific Plan Area	249
Soscol and Central Avenues	155
Lincoln and Maplewood Avenues	432
Foster Road	311
Source: City of Napa, April 2014.	

Level of Service Standard – Existing with Project Conditions

Impact TRANS-1: Implementation of the Housing Element would not cause an arterial or collector street to exceed LOS D standard except where LOS E is permitted per the City’s General Plan; and would not cause a state highway facility to exceed LOS E under Existing Conditions.

Impact Analysis

Roadway operations were analyzed under existing conditions without and with the project to isolate the impact of the proposed Housing Element project based on the methodology previously described. The peak-hour volumes and level of service at the study freeway and roadway segments under Existing and Existing with Project conditions are presented in Table 3.6-9. As shown in Table 3.6-9, all segments would operate acceptably at LOS D or better with the addition of the project-generated traffic. As such, impacts would be less than significant.

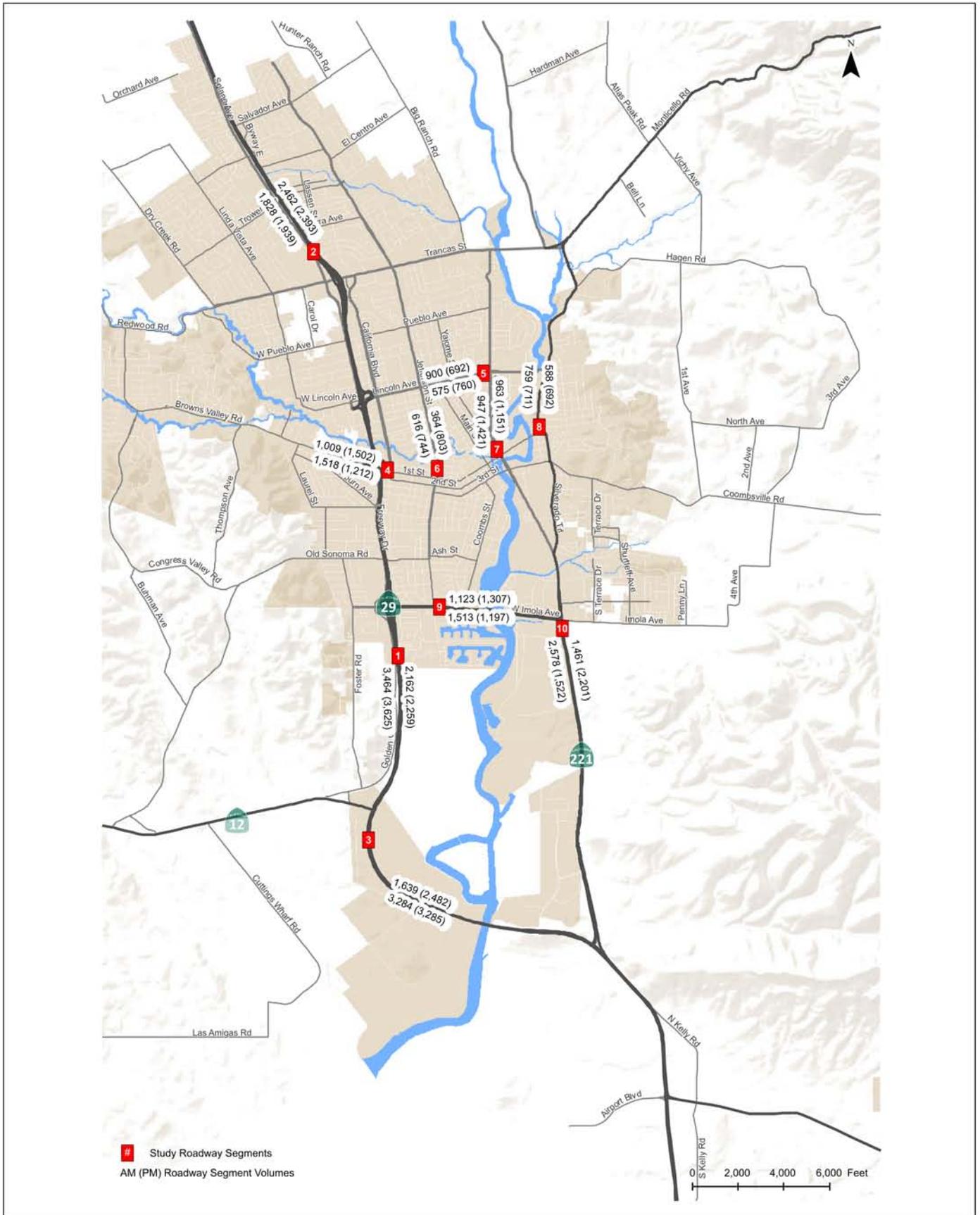


Source: Kittelson & Associates, Inc., August 2014



Exhibit 3.6-4 Study Roadway Segments – Existing Plus Project

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Source: Kittelson & Associates, Inc., August 2014



Exhibit 3.6-5 Study Roadway Segments – Cumulative Volumes

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Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

Level of Service Standard – Cumulative Conditions

Impact TRANS-2: Implementation of the Housing Element would add 50 or more trips in the PM peak hour to the northbound SR-221 segment south of W. Imola Avenue where the service level is below acceptable standard under Cumulative Conditions.

Impact Analysis

Analyses were performed for cumulative (Year 2023) conditions to determine the effect of the project in combination with the projected growth in Napa and the surrounding communities using the methodology previously described. The future roadway network in the study area is assumed to be the same as existing conditions. However, several recent planning studies have identified future mitigation measures that, when implemented, would improve traffic circulation in Napa. Some of these mitigation measures as they relate to potential impacts of the Housing Element are discussed below.

The peak-hour volumes and levels of service at the study freeway and roadway segments under Cumulative conditions including the proposed project are presented in Table 3.6-9. With 2023 Cumulative conditions including the implementation of the proposed project, three study segments are projected to operate below acceptable standards. The southbound Silverado Trail (SR-121) segment north of First Street and the southbound SR-221 segment south of W. Imola Avenue (SR-121) would both operate at LOS F in the southbound direction during the AM peak hour. However, because the project would only add 7 trips to the Silverado Trail segment and 36 trips to the SR-221 segment, the project impacts would be less than the 50 additional trip threshold, and are not considered to be cumulatively significant.

The northbound SR-221 segment, south of W. Imola Avenue (SR-121), would operate at LOS F during the PM peak hour. The project would add 53 trips to this segment; therefore, the project's impact is considered to be cumulatively considerable. Both the Napa Pipe Final EIR (Napa County 2012) and the Napa County Jail Project Draft EIR (Napa County 2013) identified mitigation measures to improve operations at the SR-221 and W. Imola Avenue intersection. Upon implementation of the stated measures (which include construction of an additional left-turn lane on the eastbound approach, and construction of an exclusive right-turn lane on the westbound approach), the operations at the intersection as well as on the adjacent segments on SR-221 and W. Imola Avenue would be improved. These recommended intersection improvements would provide acceptable traffic operations relative to the City's intersection level of service thresholds. However, the analysis and modeling used herein cannot definitively indicate if the intersection modifications would improve

the LOS for the street segment to an acceptable level without adding an additional through lane on SR-221 north of Magnolia Drive. Therefore, it is not certain that the intersection improvements would reduce the cumulative impact on the northbound SR-221 segment to a less than significant level, and impacts are considered significant and unavoidable.

Level of Significance Before Mitigation

The project contribution to the impact along the northbound SR-221 segment south of W. Imola Avenue (SR-121) would be cumulatively considerable.

Mitigation Measures

MM TRANS-2 Provide an additional northbound through lane on SR-221 north of Magnolia Drive to improve the cumulative impact to a less than significant level.

Level of Significance After Mitigation

Because SR-221 is under Caltrans's jurisdiction, the feasibility and timing of implementing the measure is not under the City's control. Without confirmed funding or an implementation schedule for the improvement, the impact would remain significant and unavoidable.

Table 3.6-9: Roadway Segment Level of Service

Segment	Location	Direction	Peak Hour	Existing Conditions		Existing plus Project		Number of Project-Added Trips	Cumulative	
				Volume	LOS	Volume	LOS		Volume	LOS
Freeway										
SR-29	N. of Trancas St	NB	AM	2,135	B	2,294	B	159	2,462	B
			PM	2,052	B	2,054	B	2	2,393	B
		SB	AM	1,097	B	1,102	B	5	1,828	B
			PM	1,548	B	1,587	B	39	1,939	B
SR-29	S. of SR-121/W. Imola Ave	NB	AM	1,999	B	2,004	B	5	2,162	B
			PM	2,042	B	2,116	B	74	2,259	B
		SB	AM	3,026	D	3,102	D	76	3,464	D
			PM	3,582	D	3,642	D	60	3,625	D
Highway										
SR-29	S. of SR-12/SR-121 Junction	NB	AM	1,570	B	1,562	B	-8	1,639	B
			PM	2,094	C	2,144	C	50	2,482	C
		SB	AM	2,772	D	2,862	D	90	3,284	E
			PM	3,151	D	3,181	D	30	3,285	E
Arterial										
1st Street	W. of California Blvd	EB	AM	1,443	C	1,458	C	15	1,518	C
			PM	1,145	C	1,156	C	11	1,212	C
		WB	AM	948	B	951	B	3	1,009	B
			PM	1,461	C	1,461	C	0	1,502	C

Table 3.6 9 (cont.): Roadway Segment Level of Service

Segment	Location	Direction	Peak Hour	Existing Conditions		Existing plus Project		Number of Project-Added Trips	Cumulative	
				Volume	LOS	Volume	LOS		Volume	LOS
Lincoln Avenue	W. of Soscol Ave	EB	AM	575	C	575	C	0	575	C
			PM	628	C	649	C	21	760	C
		WB	AM	580	C	593	C	13	900	C
			PM	630	C	658	C	28	692	C
Jefferson Street	N. of Clay St	NB	AM	347	B	397	C	0	364	B
			PM	657	C	674	C	17	803	C
		SB	AM	469	C	480	C	11	616	C
			PM	699	C	699	C	0	744	C
Soscol Avenue	N. of 1st St	NB	AM	810	C	813	C	3	963	C
			PM	963	C	1,018	C	55	1,151	C
		SB	AM	797	C	842	C	45	947	C
			PM	1,284	C	1,301	C	17	1,421	C
Silverado Trail (SR-121)	N. of 1st St	NB	AM	544	B	572	B	28	588	B
			PM	591	B	614	B	23	692	B
		SB	AM	567	B	573	B	6	759	F
			PM	680	B	683	B	3	711	C
W. Imola Avenue (SR-121)	E. of Jefferson St	EB	AM	1,369	C	1,379	C	10	1,513	C
			PM	1,130	C	1,130	C	0	1,197	C
		WB	AM	1,058	B	1,062	B	4	1,123	C
			PM	1,181	C	1,200	C	19	1,307	C

Table 3.6 9 (cont.): Roadway Segment Level of Service

Segment	Location	Direction	Peak Hour	Existing Conditions		Existing plus Project		Number of Project-Added Trips	Cumulative	
				Volume	LOS	Volume	LOS		Volume	LOS
SR-221	S. of W. Imola Ave (SR-121)	NB	AM	1,361	C	1,371	C	10	1,461	C
			PM	1,873	C	1,926	C	53	2,201	F
		SB	AM	1,945	C	1,981	C	36	2,578	F
			PM	1,420	C	1,420	C	0	1,522	C

Notes:
Bold font denotes exceedance of standards.
 Highlighted cells denote significant impact.
 Source: Kittelson & Associates, 2014.

Pedestrians

Impact TRANS-3: Implementation of the Housing Element would not disrupt existing or interfere with planned pedestrian facilities; create a high demand for pedestrian facilities at locations that lack pedestrian facilities; or create inconsistencies with adopted pedestrian system plans, guidelines, policies or standards.

Impact Analysis

New developments on the proposed housing sites would be reviewed and approved by the City. The proposed housing sites are primarily located on infill parcels throughout Napa. Sidewalks connected with adjacent properties are already provided along the frontage of many of these sites. Where pedestrian walkways are not available or are required to be improved, installation of sidewalks would be required as a part of the City's entitlement process. Pedestrian facilities would be constructed in accordance with the City's Public Works Standards, which generally require the provision of a 10-foot sidewalk/landscape strip on each side of the street with a minimum 4-foot width allocated for the sidewalk. Accessible curb ramps are also required. Variations to these standards may be approved at the discretion of the Public Works Director. As such, implementation of the Housing Element would not result in interference, high demand, or inconsistencies with pedestrian facilities. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

Bicycles

Impact TRANS-4: The project would not disrupt existing or interfere with planned bicycle facilities, or create inconsistencies with adopted pedestrian system plans, guidelines, policies or standards.

Impact Analysis

Most of the housing sites are infill sites located in existing neighborhoods, and as such the development would not disrupt existing bicycle facilities or interfere with planned bicycle facilities. Future housing developments would be required to provide right-of-way, if necessary, and/or construct the planned bicycle facilities along the frontage of the developments consistent with the City's bicycle plans. Site plans would be reviewed by the City to ensure bicycle access is consistent with adopted plans, guidelines, policies or standards.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

Transit

Impact TRANS-5: Implementation of the Housing Element would not disrupt existing or interfere with planned transit services or facilities; create demand for public transit above that which is provided or planned; or create inconsistencies with adopted transit system plans, guidelines, policies or standards.

Impact Analysis

NCTPA's Napa Short Range Transit Plan (SRTP) 2013-2022 has established performance standards for its transit services. One of the standards is that 85 percent of dwelling units in the urbanized Napa County area shall be within 0.25 mile of fixed route service. Most of the housing sites are located in existing neighborhoods that already meet the 0.25-mile standard. It is anticipated that new developments, such as those located on the Gasser North site, would also be within 0.25 mile of existing fixed route service.

Another performance standard identified in the SRTP is for ridership to grow in relation to population growth in the County. Ridership on VINE Transit fixed route service has decreased by 33 percent between 2007–2008 and 2011–2012, while at the same time the population in Napa has grown by approximately 1.7 percent. Because there is residual capacity in the system following this ridership decrease, it is unlikely that the proposed project would increase ridership on VINE Transit that could not be accommodated by existing or planned service routes. Further, the anticipated increase of ridership from the project would have a beneficial effect on operating cost per passenger. As such, impacts to transit facilities, demand, and plans would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

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3.7 - Geology, Soils, and Seismicity

3.7.1 - Introduction

This section describes the existing geology, soils, and seismicity setting and potential effects from adoption and implementation of the draft Housing Element on the project area and its surroundings. Descriptions and analysis in this section are based on review of the City of Napa General Plan and information provided by the United States Geological Survey (USGS).

3.7.2 - Environmental Setting

Regional Geology

Napa County is located within the California Coast Range Geomorphic province. This province is a geologically complex and seismically active region characterized by sub-parallel northwest-trending faults, mountain ranges, and valleys. The oldest bedrock units are the Jurassic-Crustaceous Franciscan Complex and Great Valley sequence sediments originally deposited in a marine environment. Subsequently, younger rocks such as the Tertiary-age Sonoma Volcanics group; the Plio-Pleistocene-age Clear Lake Volcanics; and sedimentary rocks such as the Guinda, Domengine, Petaluma, Wilson Grove, Cache, Huichica, Glen Ellen formations were deposited throughout the province. Extensive folding and thrust faulting during the late Crustaceous through early Tertiary geologic time created complex geologic conditions that underlie the highly varied topography of today. In valleys, the bedrock is covered by thick alluvial soils. The project site is located on the southeastern end of the Napa Valley, a long, narrow northwest trending alluvial plain flanked by northwest trending mountain ridges.

Seismicity

The term seismicity describes the effects of seismic waves that are radiated from an earthquake as it ruptures. While most of the energy released during an earthquake results in the permanent displacement of the ground, as much as 10 percent of the energy may dissipate immediately in the form of seismic waves. The probability of one or more earthquakes of magnitude 6.7 (Richter scale) or higher occurring in the project area has been evaluated by the USGS. Based on the results of the USGS evaluation, there is a 62-percent likelihood that such an earthquake event will occur in the Bay Area between 2003 and 2032. The faults with the greater probability of movement with a magnitude of 6.7 or higher earthquake are the Hayward Fault at 27 percent, the San Andreas Fault at 21 percent, and the Calaveras Fault at 11 percent. To understand the implications of seismic events, a discussion of faulting and seismic hazards is provided below.

Faulting

Faults form in rocks when stresses overcome the internal strength of the rock, resulting in a fracture. Large faults develop in response to large, regional stresses operating over a long time, such as those stresses caused by the relative displacement between tectonic plates. According to the elastic rebound theory, these stresses cause strain to build up in the earth's crust until enough strain has built up to exceed the strength along a fault and cause a brittle failure. The slip between the two stuck plates or coherent blocks generates an earthquake. Following an earthquake, strain will build

once again until the occurrence of another earthquake. The magnitude of slip is related to the maximum allowable strain that can be built up along a particular fault segment. The greatest buildup in strain that is due to the largest relative motion between tectonic plates or fault blocks over the longest period of time will generally produce the largest earthquakes. The distribution of these earthquakes is a study of much interest for both hazard prediction and the study of active deformation of the earth's crust. Deformation is a complex process, and strain caused by tectonic forces is not only accommodated through faulting but also by folding, uplift, and subsidence, which can be gradual or in direct response to earthquakes.

Faults are mapped to determine earthquake hazards, since they occur where earthquakes tend to recur. A historic plane of weakness is more likely to fail under stress and strain than a previously unbroken block of crust. Faults are, therefore, a prime indicator of past seismic activity, and faults with recent activity are presumed to be the best candidates for future earthquakes. However, since slip is not always accommodated by faults that intersect the surface along traces, and since the orientation of stresses and strain in the crust can shift, predicting the location of future earthquakes is complicated. Earthquakes sometimes occur in areas with previously undetected faults or along faults previously thought inactive.

The West Napa, Concord-Green Valley, Cordelia, Healdsburg-Rogers Creek, San Andreas, and Mayacama are six faults closest to Napa. These faults and their characteristics are summarized in Table 3.7-1.

Table 3.7-1: Fault Summary

Fault	Type	Direction	Approximate Distance From City (miles)	Maximum Credible Earthquake (magnitude)
West Napa	Normal-Oblique	West	0	6.50
Concord-Green Valley	Strike-Slip	East	6	6.75
Cordelia	Strike-Slip	East	9	6.50
Healdsburg-Rogers Creek	Strike-Slip	Southwest	15	7.00
Mayacama	Strike-Slip	Northwest	30	7.25
San Andreas	Strike-Slip	Southwest	36	7.75

Source: RGH Geotechnical and Environmental Consultants, 2002; California Department of Transportation, 1996.

West Napa Fault

The West Napa Fault begins under San Pablo Bay and travels north through American Canyon and up the west side of the Napa Valley to the vicinity of Saint Helena. The West Napa Fault is designated an Alquist-Priolo Special Study Area south of the City of Napa. On August 24, 2014, a magnitude 6.0 earthquake (known as the South Napa Earthquake) occurred on the West Napa Fault, the epicenter of which was approximately 9 miles south of the project site. Prior to the 2014 South Napa Earthquake, the last major seismic event on the West Napa Fault was a magnitude 5.2 temblor that was epicentered near Yountville in September 2000.

depicts the location of West Napa Fault in relation to the City. As shown in the exhibit, the fault's Alquist-Priolo Special Study Area is located south of the City.

Seismic Hazards

Seismicity describes the effects of seismic waves that are radiated from an earthquake as it ruptures. While most of the energy released during an earthquake results in the permanent displacement of the ground, as much as 10 percent of the energy may dissipate immediately in the form of seismic waves. To understand the implications of seismic events, a discussion of faulting and seismic hazards is provided below.

Seismic hazards pose a substantial danger to property and human safety and are present because of the risk of naturally occurring geologic events and processes impacting human development. Therefore, the hazard is influenced as much by the conditions of human development as by the frequency and distribution of major geologic events. Seismic hazards present in California include ground rupture along faults, strong seismic shaking, liquefaction, ground failure, landsliding, and slope failure.

Fault Rupture

Fault rupture is a seismic hazard that affects structures sited above an active fault. The hazard from fault rupture is the movement of the ground surface along a fault during an earthquake. Typically, this movement takes place during the short time of an earthquake, but it also can occur slowly over many years in a process known as creep. Most structures and underground utilities cannot accommodate the surface displacements of several inches to several feet commonly associated with fault rupture or creep.

Following the August 24, 2014 seismic event on the West Napa Fault, fault rupture was observed on various roadways in Napa County, including State Route 121 and Old Sonoma Road.

Ground Shaking

The severity of ground shaking depends on several variables such as earthquake magnitude, epicenter distance, local geology, thickness, seismic wave-propagation properties of unconsolidated materials, groundwater conditions, and topographic setting. Ground shaking hazards are most pronounced in areas near faults or with unconsolidated alluvium.

Based on observations of damage from recent earthquakes in California (e.g., San Fernando 1971, Whittier-Narrows 1987, Landers 1992, Northridge 1994), ground shaking is responsible for 70 to 100 percent of all earthquake damage. The most common type of damage from ground shaking is structural damage to buildings, which can range from cosmetic stucco cracks to total collapse. The overall level of structural damage from a nearby large earthquake would likely be moderate to heavy, depending on the characteristics of the earthquake, the type of ground, and the condition of the building. Besides damage to buildings, strong ground shaking can cause severe damage from falling objects or broken utility lines. Fire and explosions are also hazards associated with strong ground shaking.

During the 2014 South Napa Earthquake, USGS instrument readings at a monitoring site in Napa reported peak ground acceleration value of 40.7 percent of gravity, which corresponds to “very strong” ground shaking. Following the earthquake, more than 200 persons sought treatment at local hospitals, more than 150 buildings were “red tagged,”¹ and numerous utility lines experienced ruptures or leaks that disrupted service.

Ground Failure

Ground failure includes liquefaction and the liquefaction-induced phenomena of lateral spreading, and lurching.

Liquefaction is a process by which sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. Liquefaction is restricted to certain geologic and hydrologic environments, primarily recently deposited sand and silt in areas with high groundwater levels. The process of liquefaction involves seismic waves passing through saturated granular layers, distorting the granular structure, and causing the particles to collapse. This causes the granular layer to behave temporarily as a viscous liquid, resulting in liquefaction.

Liquefaction can cause the soil beneath a structure to lose strength, which may result in the loss of foundation-bearing capacity. This loss of strength commonly causes the structure to settle or tip. Loss of bearing strength can also cause light buildings with basements, buried tanks, and foundation piles to rise buoyantly through the liquefied soil.

Lateral spreading is lateral ground movement, with some vertical component, caused by liquefaction. In effect, the soil rides on top of the liquefied layer. Lateral spreading can occur on relatively flat sites with slopes less than 2 percent, under certain circumstances, and can cause ground cracking and settlement.

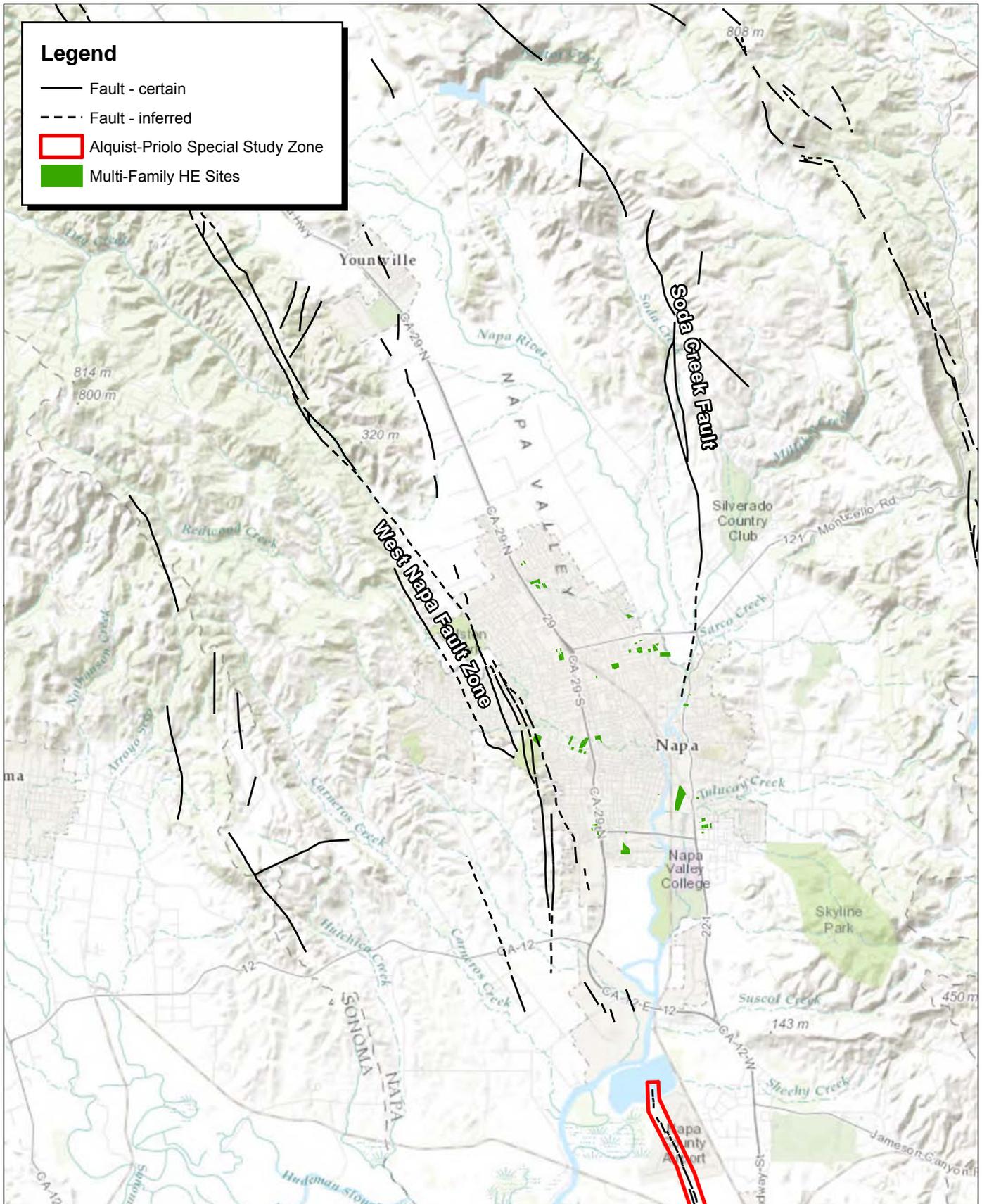
Lurching is the movement of the ground surface toward an open face when the soil liquefies. An open face could be a graded slope, stream bank, canal face, gully, or other similar feature.

Landslides and Slope Failure

Landslides and other forms of slope failure form in response to the long-term geologic cycle of uplift, mass wasting, and disturbance of slopes. Mass wasting refers to a variety of erosional processes from gradual downhill soil creep to mudslides, debris flows, landslides and rock fall—processes that are commonly triggered by intense precipitation, which varies according to climactic shifts. Often, various forms of mass wasting are grouped together as landslides, which are generally used to describe the downhill movement of rock and soil.

Geologists classify landslides into several different types that reflect differences in the type of material and type of movement. The four most common types of landslides are translational, rotational, earth flow, and rock fall. Debris flows are another common type of landslide similar to earth flows, except that the soil and rock particles are coarser. Mudslide is a term that appears in non-technical literature to describe a variety of shallow, rapidly moving earth flows.

¹ A red-tagged building is considered uninhabitable under the California Building Standards Code.



Source: ESRI, USGS, CADOC



Exhibit 3.7-1 West Napa Fault Map

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Soils

As indicated by the Napa General Plan, the City is generally underlain by bay mud, fluvial, alluvial, volcanics, sandstone and shale, and mudstone type soils.

3.7.3 - Regulatory Framework

Federal

National Earthquake Hazards Reduction Program

The National Earthquake Hazards Reduction Program was established by the United States Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law 95–124. In establishing National Earthquake Hazards Reduction Program, Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs. The four basic goals remain unchanged:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation.
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use.
- Improve the understanding of earthquakes and their effects.

Several key federal agencies contribute to earthquake mitigation efforts. There are four primary NEHRP agencies:

- National Institute of Standards and Technology of the Department of Commerce
- National Science Foundation
- United States Geological Survey (USGS) of the Department of the Interior
- Federal Emergency Management Agency (FEMA) of the Department of Homeland Security

Implementation of National Earthquake Hazards Reduction Program priorities is accomplished primarily through original research, publications, and recommendations to assist and guide state, regional, and local agencies in the development of plans and policies to promote safety and emergency planning.

State

California Building Code

The 2012 International Building Code is published by the International Conference of Building Officials, and is the widely adopted model building code in the United States. The 2013 California Building Code is another name for the body of regulations known as the California Code of Regulations, Title 24, Part 2, which is a portion of the California Building Standards Code. The California Building Code incorporates by reference the International Building Code requirements

with necessary California amendments. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable.

Compliance with the 2013 California Building Code requires that (with very limited exceptions) structures for human occupancy be designed and constructed to resist the effects of earthquake motions. The Seismic Design Category for a structure is determined in accordance with either; California Building Code Section 1613 - Earthquake Loads: or, American Society of Civil Engineers Standard No. 7-05, Minimum Design Loads for Buildings and Other Structures. In brief, based on the engineering properties and soil-type of soils at a proposed site, the site is assigned a Site Class ranging from A to F. The Site Class is then combined with Spectral Response (ground acceleration induced by earthquake) information for the location to arrive at a Seismic Design Category ranging from A to D, of which D represents the most severe conditions. The classification of a specific site and related calculations must be determined by a qualified person and are site-specific.

Alquist-Priolo Earthquake Fault Zoning Act

In response to the severe fault rupture damage of structures by the 1971 San Fernando earthquake, the State of California enacted the Alquist-Priolo Earthquake Fault Zoning Act in 1972. This act required the State Geologist to delineate Earthquake Fault Zones along known active faults that have a relatively high potential for ground rupture. Faults that are zoned under the Alquist-Priolo Act must meet the strict definition of being “sufficiently active” and “well-defined” for inclusion as an Earthquake Fault Zones. The Earthquake Fault Zones are revised periodically, and they extend 200 to 500 feet on either side of identified fault traces. No structures for human occupancy may be built across an identified active fault trace. An area of 50 feet on either side of an active fault trace is assumed to be underlain by the fault, unless proven otherwise. Proposed construction in an Earthquake Fault Zone is permitted only following the completion of a fault location report prepared by a California Registered Geologist. The West Napa Fault is designated as an Alquist-Priolo Special Study Area south of the City within Napa County.

Seismic Hazards Mapping Act

In 1990, following the 1989 Loma Prieta earthquake, the California Legislature enacted the Seismic Hazards Mapping Act to protect the public from the effects of strong ground shaking, liquefaction, landslides and other seismic hazards. The Seismic Hazards Mapping Act established a statewide mapping program to identify areas subject to violent shaking and ground failure; the program is intended to assist cities and counties in protecting public health and safety. The Seismic Hazards Mapping Act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. As a result, the CGS is mapping Seismic Hazards Mapping Act Zones and has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, ground shaking, and landslides, primarily the San Francisco Bay area and Los Angeles basin.

Local

City of Napa

General Plan

The General Plan sets forth the following goals and policies relevant to geology, soils, and seismicity that are applicable to the proposed project:

- **Goal HS-1:** To minimize the risk to life and property from seismic activity.
- **Policy HS-1.1:** The City shall require that all new buildings be designed and constructed to resist stresses produced by earthquakes. To this end, the City shall require all new buildings to conform to the structural requirements of the most recently adopted edition of the Uniform Building Code.
- **Policy HS-1.3:** The City shall require soils and geologic studies for proposed development with large client populations (such as schools and convalescent centers) within areas subject to very strong, violent, or very violent ground shaking, as indicated in the ABAG Shaking Intensity Map. Such studies should determine the actual extent of the seismic hazards, optimum location for structures, the advisability of special structural requirements, and the feasibility and desirability of a proposed facility in a specified location. Mitigation measures shall be incorporated as conditions of any project approval.
- **Goal HS-2:** To minimize the hazards to people and property caused by soil erosion and landslides.
- **Policy HS-2.1:** The City shall seek to minimize grading and impermeable surfaces in high-erosion areas. If grading or impermeable surfaces are necessary, they shall be properly engineered and drained to reduce runoff and erosion.
- **Policy HS-2.2:** The City shall consider natural landform contours and geologic conditions in the development of roadways and individual project design.

3.7.4 - Methodology

FirstCarbon Solutions reviewed published information about local geologic, soil, and seismic conditions in the Napa area. Sources reviewed included the City of Napa General Plan and the United States Geological Survey “Shake Map” webpage.

3.7.5 - Thresholds of Significance

According to Appendix G, Environmental Checklist, of the CEQA Guidelines, geology, soils, and seismicity impacts resulting from the implementation of the proposed project would be considered significant if the project would:

- a) Expose people or structures to 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? (Refer to Section 7, Effects Found Not To Be Significant.)
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (Refer to Section 7, Effects Found Not To Be Significant.)
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? (Refer to Section 7, Effects Found Not To Be Significant.)
- 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? (Refer to Section 7, Effects Found Not To Be Significant.)

3.7.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Seismic Hazards

Impact GEO-1: Implementation of the Housing Element would not expose people or structures to substantial adverse effects associated with seismic hazards.

Impact Analysis

This impact evaluates potential exposure to seismic hazards, including fault rupture, strong ground shaking, ground failure and liquefaction, and landslides. Each issue is discussed separately.

Fault Rupture

As shown in Exhibit 3.7-1, while approximately three potential housing sites are located in an area that is within or directly adjacent to the an inferred portion of the West Napa Fault, the Alquist-Priolo Special Study Area associated with the West Napa Fault does not overlap with the City. Furthermore, implementation of the draft Housing Element does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Future development proposed on the housing sites located within or directly adjacent to the inferred West Napa Fault would be required to submit a geotechnical analysis prior to project approval in accordance with city requirements. The geotechnical analysis would provide recommendations to ensure that significant impacts resulting from fault rupture would not occur. This, in combination with the distance to the nearest Alquist-Priolo Special Study Area, would ensure that fault rupture impacts would be less than significant.

Strong Ground Shaking

A portion of the West Napa Fault is located within the City generally along the Napa Valley's western edge. As indicated by Figure 8-1a of the Napa General Plan, the most intense ground shaking from an earthquake on the West Napa Fault would occur in the southernmost areas of the City.

During the 2014 South Napa Earthquake, USGS instrument readings at a monitoring site in Napa reported a peak ground acceleration value of 40.7 percent of gravity, which corresponds to "very strong" ground shaking.

Implementation of the draft Housing Element does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. All future housing developed on the potential housing sites would be required to be consistent with General Plan Policy HS-1.1, which requires all new buildings to be designed and constructed to resist stresses produced by earthquakes and to be consistent with the most recently adopted edition of the Uniform building Code. In addition, Policy HS-1.3 requires the implementation of soils and geologic studies for developments with large populations (such as multi-family housing). Such a report would provide recommendations on the appropriate level of soil engineering and building design necessary to minimize ground shaking hazards. Municipal Code Sections 16.20 and 16.28 also require soils and geologic studies for projects requiring parcel subdivision. Compliance with the General Plan and Municipal Code would ensure that future residential development is not exposed to strong ground shaking hazards. Impacts would be less than significant.

Ground Failure and Liquefaction

As indicated by the Napa General Plan, areas that have the greatest potential for liquefaction are those areas where the water table is less than 50 feet below the surface and soils are predominantly clean, are composed of relatively uniform sands, and/or are of loose to medium density. The poorly consolidated younger alluvium that occupies areas south of the City and along the Napa River are considered to have a high to very high potential for liquefaction. The younger soils found on the valley floor in the western part of the City are also subject to moderate to high potential for liquefaction. However, implementation of General Plan Policy HS-1.4, which requires special construction features in the design of structures where site investigations confirm potential seismic hazards, such as liquefaction or ground failure, would ensure that future housing development is not exposed to significant impacts. Furthermore, implementation of the draft Housing Element does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Therefore, impacts would be less than significant.

Landslides

As evidenced by Figure 8-4 of the General Plan, the future residential sites are located in areas consisting of relatively flat relief with low susceptibility to landslides. Furthermore, implementation of the draft Housing Element does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through

the existing General Plan. This condition precludes the possibility of earthquake-induced landslides inundating the project site. No impacts would occur.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less than significant impact.

SECTION 4: CUMULATIVE IMPACT ANALYSIS

4.1 - Introduction

CEQA Guidelines Section 15130 requires the consideration of cumulative impacts within an EIR when a project’s incremental effects are cumulatively considerable. Cumulatively considerable means that “. . . the incremental effects of an individual 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.” In identifying projects that may contribute to cumulative impacts, the CEQA Guidelines allow the use of a list of past, present, and reasonably anticipated future projects, producing related or cumulative impacts, including those which are outside of the control of the lead agency.

In accordance with CEQA Guidelines Section 15130(b), “. . . the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, the discussion need not provide as great [a level of] detail as is provided for the effects attributable to the project alone.” The discussion should be guided by standards of practicality and reasonableness, and it should focus on the cumulative impact to which the identified other projects contribute rather than on the attributes of other projects that do not contribute to the cumulative impact.

The proposed Housing Element’s cumulative impacts were considered in conjunction with other proposed and approved projects in the City of Napa. In addition, pending and approved projects in the surrounding unincorporated portions of Napa County were considered. Table 4-1 provides a list of other projects considered in the cumulative analysis.

Table 4-1: Cumulative Projects

Jurisdiction	Name	Location	Characteristics	Status
City of Napa	Archer Hotel	1200 First Street	168 hotel rooms	Approved
	Ritz Carlton Hotel	1515 & 1217 Silverado Trail	351 hotel rooms 40,500 sq ft of retail, restaurant and health spa 52,684 sq ft of banquet/meeting space	Approved
	St. Regis	Southwest of the junction of State Route 12 (SR-12), SR-29, and SR-121 within Stanly Ranch	150 hotel rooms 95 vacation homes 25,000 case winery	Approved
	Napa Crossings South	300 Soscol Avenue	83,000 sq ft retail	Completed

Table 4-1 (cont.): Cumulative Projects

Jurisdiction	Name	Location	Characteristics	Status
City of Napa (cont.)	Solano Square at Justin-Siena	4026 Maher St	26,400 sq ft Sprouts Market 48,500 sq ft Hardware Supply Store 3,000 sq ft retail pad	In process
	Hampton Inn and In Shape Fitness Center	935 Hartle Court	115 hotel rooms 38,000 sq ft fitness center/gym	Approved, under construction
Napa County	Napa Pipe	154 acres between the Napa Valley Corporate Park and the Napa River	<i>Pre 2030 Assumptions:</i> 154,000 sq ft Costco 40,000 sq ft Neighborhood Retail/Restaurant 150 unit Continuing Care Facility 350 Residential units (unit type uncertain) <i>Post 2030 Assumptions:</i> 90,000 sq ft of offices space 350 residential units (unit type uncertain) 75,000 sq ft of Light Industrial, R&D, Warehouse 250 residential units (unit type uncertain)	In process
	Napa County Jail	West of SR 221 between River to Ridge Trail and Basalt Road	526 bed jail facility, 50-100 bed transitional facility and related ancillary facilities	In process
<p>Note: sq ft: square feet Source: City of Napa, 2014.</p>				

4.2 - Cumulative Impact Setting

The cumulative impact analysis below is guided by the requirements of CEQA Guidelines Section 15130. Key principles established by this section include:

- A cumulative impact only occurs from impacts caused by the proposed project and other projects. An EIR should not discuss impacts that do not result from the proposed project.
- When the combined cumulative impact from the increment associated with the proposed project and other projects is not significant, an EIR need only briefly explain why the impact is not significant; detailed explanation is not required.

- An EIR may determine that a project's contribution to a cumulative effect impact would be rendered less than cumulatively considerable if a project is required to implement or fund its fair share of mitigation intended to alleviate the cumulative impact.
- The cumulative impact analysis that follows relies on these principles as the basis for determining the significance of the draft Housing Element's cumulative contribution to various impacts.

4.3 - Cumulative Impact Analysis

4.3.1 - Air Quality

The geographic scope of the cumulative air quality analysis is the San Francisco Bay Area Air Basin. Air pollution is regarded as a regional issue; therefore, this area would be the area most likely to be impacted by project emissions.

Development of the sites identified in the Housing Element would result in air emissions from construction and operational activities. Air emissions are regulated at the regional level by the Bay Area Air Quality Management District, which uses Association of Bay Area Governments (ABAG) population and employment projections as the basis for its air quality management planning. Growth in various jurisdictions within the Air Basin may or may not be within projected levels. Growth contemplated by the Housing Element would not alter existing land use designations within the City of Napa, would be consistent with the City of Napa General Plan, and would be within ABAG population and employment projections for the City; therefore, no conflicts would occur with regional clean air planning assumptions. Because the Housing Element would not alter existing land use designations and future development would be required to comply with existing General Plan policies that reduce exposure to toxic air contaminants, odors, dust, and other air pollutants, it would not increase exposure to toxic air contaminants or objectionable odors beyond existing levels. As such, the Housing Element would not make a cumulatively considerable contribution to air quality impacts.

4.3.2 - Greenhouse Gas Emissions

Greenhouse gas emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. No single project could generate enough greenhouse gas emissions to noticeably change the global average temperature. The combination of greenhouse gas emissions from past, present, and future projects contributes substantially to the phenomenon of global climate. However, comparison of the project to global development would not provide a meaningful analysis. Because CEQA applies to discretionary actions only within the State of California, and because the regulatory environment (such as Assembly Bill [AB] 32) utilized within the greenhouse gas impact section is largely based on California, the State of California is considered the geographic scope of the cumulative greenhouse gas emissions analysis.

The Housing Element would not alter existing land use designations. As shown within Section 3.2, Greenhouse Gas Emissions, the Housing Element would not exceed the BAAQMD's 2010 threshold of significance for plan-level actions, nor would it substantially conflict with the emission reduction

requirements of AB 32. ARB's Scoping Plan was adopted to implement the emission reduction requirements of AB 32. Therefore, the Housing Element would not conflict with the Scoping Plan. As such, the Housing Element would not make a cumulatively considerable contribution to greenhouse gas emissions.

4.3.3 - Land Use and Planning

The geographic scope of the cumulative land use analysis is the City of Napa's jurisdictional boundaries. Land use decisions are made at the local jurisdictional level; therefore, using jurisdictions is an appropriate geographic scope.

The draft Housing Element would not change any existing land use designations and, therefore, would not have the potential to create adverse impacts associated with division of an established community or inconsistency with adopted land use plans. Further, when a project itself entails amendments to the General Plan, such as this project, inconsistency with the existing adopted General Plan is an element of the project itself, which then necessitates a legislative policy decision by the agency and does not signify a potential environmental effect. The City of Napa General Plan, other long-term planning documents, and regulatory agency guidance establish policies that require the evaluation of land use compatibility and compliance with applicable requirements. Development and land use activities are required to be consistent with the General Plan and Zoning Ordinance, and the Housing Element would not alter existing land use designations. Therefore, development and land use activities contemplated by the Housing Element and other land use plans would not result in cumulatively considerable land use impacts.

4.3.4 - Noise

The geographic scope of the cumulative noise analysis is the project vicinity, including surrounding sensitive receptors. Noise impacts tend to be localized; therefore, the area near the project site would be the area most affected by project activities.

Development of the sites identified in the Housing Element have the potential to create adverse impacts associated with noise level increases that expose sensitive receptors to unacceptable ambient noise levels. As discussed in Section 3.4, Noise, the upper limit for "normally acceptable" exterior noise levels at single-family residential uses is 60 dBA L_{dn} and the upper limit for "conditionally acceptable" exterior noise levels are 70 dBA L_{dn} . Roadway noise contours associated with every major arterial roadway are currently at or exceed 60 dBA L_{dn} .

With implementation of the Housing Element, development of noise-sensitive land uses could occur in areas within the City that have ambient noise levels from traffic or railroad noise sources in excess of 60 dBA CNEL. However, implementation of General Plan Policy HS-9.1 and Implementation Program HS-9.A would ensure that future residential development would not be exposed to excessive traffic noise. Furthermore, future residential development would not result in significant ambient noise increases as a result of increased traffic trips on surrounding roadways.

Compliance with Section 8.08.025 of the Noise Ordinance of the Municipal Code would ensure that construction resulting from future residential development noise would be minimized. Similarly,

implementation of mitigation would ensure that potential railroad vibration impacts to future residential development would not occur.

Other projects within the City of Napa would also be required to comply with General Plan policies and Municipal Code ordinances regarding noise impacts. Furthermore, vibration impacts are a generally localized phenomenon and would not be likely to combine with other vibration sources. As such, the Housing Element, in conjunction with other future development, would not result in cumulatively significant noise or vibration impacts.

4.3.5 - Population and Housing

The geographic scope of the cumulative population and housing analysis is the nine-county San Francisco Bay Area region. Population and housing needs are estimated at the regional level; therefore, the San Francisco Bay Area region is an appropriate geographic scope.

The Housing Element would not alter existing land use designations, and is consistent with the regional growth projections outlined by the ABAG and regional housing needs allocations. Other projects within the San Francisco Bay Area region would be required to demonstrate consistency with population projections and residential land use designations. Therefore, the Housing Element, in conjunction with other future development, would not result in cumulatively significant impacts on population and housing.

4.3.6 - Transportation/Traffic

The geographic scope of the cumulative transportation analysis is the City of Napa and surrounding areas as analyzed in the traffic analysis.

The project would not result in impacts to pedestrian, transit, or air traffic and therefore, would not combine with other future development to result in cumulatively significant transportation impacts.

The project would not result in unacceptable levels of service (LOS) on roadway study segments in the existing plus project scenario. However, under the cumulative plus project scenario, the project would contribute more than 50 peak-hour traffic trips to the northbound segment of State Route 221 (SR-221) south of W. Imola Avenue (SR-121) in the PM peak hour, which operates at an unacceptable LOS with or without the project. Both the Napa Pipe Project (Fehr & Peers 2013) and the Napa County Jail Project Draft EIR (Napa County 2013) identified mitigation measures to improve operations at the SR-221 and W. Imola Avenue intersection. Upon implementation of the stated measures (construct an additional left-turn lane on the eastbound approach and an exclusive right-turn lane on the westbound approach), the operations at the intersection as well as on the adjacent segments on SR-221 and W. Imola Avenue would be improved.

The recommended intersection improvements may provide acceptable traffic operations relative to the City's intersection level of service thresholds. However, the intersection modifications may not improve the LOS for the street segment to an acceptable level without adding an additional through lane on SR-221 north of Magnolia Drive. Therefore, it is not certain that the intersection improvements would reduce the cumulative impact on the northbound SR-221 segment to a less than significant

level. Impacts are therefore, considered significant and unavoidable. As such, the project would result in cumulatively considerable impacts to LOS on the northbound segment of SR-221 south of W. Imola Avenue (SR-121).

4.3.7 - Geology, Soils, and Seismicity

The geographic scope of the cumulative geology, soils, and seismicity analysis is the City of Napa.

Development activities associated with the draft Housing Element, as well as other future development projects in the City, would be required to comply with building code standards for foundations and structures to ensure that buildings are adequately supported to withstand seismic events and abate any unstable soil conditions. In addition, future development would be required to implement standard erosion control measures to ensure that ground-disturbing activities do not create offsite hazards. Therefore, implementation of the draft Housing Element, in conjunction with other future development projects, would not have cumulatively considerable impacts associated with geology, soils, and seismicity.

4.4 - Cumulative Impact Summary

As noted above, implementation of the Housing Element would result in cumulatively considerable impacts to LOS at the on the northbound segment of SR-221 south of W. Imola Avenue (SR-121). No other cumulatively considerable impacts were identified.

SECTION 5: OTHER CEQA CONSIDERATIONS

5.1 - Significant and Unavoidable Impacts

CEQA Guidelines Section 15126.2(a)(b) requires an EIR to identify and focus on the significant environmental effects of the proposed project, including effects that cannot be avoided if the proposed project were implemented.

This section describes significant impacts, including those that can be mitigated but not reduced to a level of less than significant. Where there are impacts that cannot be alleviated without imposing a project alternative, their implications, and the reason why the project is being proposed, notwithstanding their effect, is described. With implementation of the draft Housing Element, one significant impact that cannot be avoided would occur. The significant unavoidable impact is discussed below.

- **Northbound State Route 221 (SR-221) segment south of W. Imola (SR-121) Cumulative LOS:**
The proposed project would contribute significant traffic trips to the segment of SR-221 south of W. Imola (SR-121) in the northbound direction in the PM peak hour, which would already operate at unacceptable LOS in the cumulative scenario before the addition of project traffic.

Under cumulative plus project scenario, the project would contribute significant traffic trips to the northbound segment of SR-221 south of W. Imola Avenue (SR-121) in the PM peak hour, which operates at an unacceptable LOS with or without the project. Both the Napa Pipe Final EIR (Napa County 2012) and the Napa County Jail Project Draft EIR (Napa County 2013) identified mitigation measures to improve operations at the SR-221 and W. Imola Avenue intersection. Upon implementation of the stated measures (which include construction of an additional left-turn lane on the eastbound approach, and construction of an exclusive right-turn lane on the westbound approach), the operations at the intersection as well as on the adjacent segments on SR-221 and W. Imola Avenue would be improved. These recommended intersection improvements would likely provide acceptable traffic operations relative to the City's intersection level of service thresholds. However, the analysis and modeling used herein cannot definitively indicate if the intersection modifications would improve the LOS for the street segment to an acceptable level.

Mitigation in this Draft EIR requires the provision of an additional northbound through lane on SR-221 north of Magnolia Drive to ensure an acceptable segment LOS. However, because SR-221 is under Caltrans's jurisdiction, the feasibility and timing of implementing the measure is not under the City's control. As such, the potential impact would remain significant and unavoidable.

5.2 - Growth-Inducing Impacts

There are two types of growth-inducing impacts that a project may have: direct and indirect. To assess the potential for growth-inducing impacts, the project's characteristics that may encourage and facilitate activities that individually or cumulatively may affect the environment must be evaluated (CEQA Guidelines Section 15126.2(d)).

Direct growth-inducing impacts occur when the development of a project imposes new burdens on a community by directly inducing population growth, or by leading to the construction of additional developments in the same area. Also included in this category are projects that remove physical obstacles to population growth (such as a new road into an undeveloped area or a wastewater treatment plant with excess capacity that could allow additional development in the service area). Construction of these types of infrastructure projects cannot be considered isolated from the development they facilitate and serve. Projects that physically remove obstacles to growth, or projects that indirectly induce growth may provide a catalyst for future unrelated development in an area such as a new residential community that requires additional commercial uses to support residents.

The Housing Element maintains the land use designations and allowable densities set forth within the previous housing element. As such, there would be no significant change in the buildout potential of residential land uses, which precludes the possibility of substantial population growth inducement beyond that which was already planned for, both locally and regionally. No impacts would occur.

5.3 - Energy Conservation

Public Resources Code Section 21100(b)(3) and CEQA Guidelines Section 15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and—perhaps most importantly—promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F of the CEQA Guidelines.

Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. For the reasons set forth below, this EIR concludes that the proposed project will not result in the wasteful, inefficient, and unnecessary consumption of energy; will not cause the need for additional natural gas or electrical energy-producing facilities; and, therefore, will not create a significant impact on energy resources.

5.3.1 - Energy Requirements of the Housing Element

Adoption of the Housing Element itself would not result in changes to energy consumption patterns. However, residential construction and land use that occur pursuant to the Housing Element would consume energy. It is not possible to reasonably estimate the amount of energy consumed by construction or operational activities, as a number of hard-to-predict variables influence energy consumption, and would need to be determined at a project-specific level, on a case-by-case basis.

There are no aspects of the Housing Element that would foreseeably result in the inefficient, wasteful, or unnecessary consumption of energy during construction or operational activities. For example, there are no policies that would directly or indirectly cause construction or operational activities to be any less efficient than would otherwise occur elsewhere (restrictions on equipment, labor, types of activities, etc.). Because no changes to land use designations or development standards are proposed, and no specific development projects would be approved in connection with adoption of the Housing Element, energy consumption of future residential construction and land uses would be consistent with that envisioned by the General Plan.

All future residential development would be required to meet California's Building Energy Efficiency Standards as outlined in Title 24 of the California Code of Regulations. Furthermore, the Housing Element includes Program H2.H, Sustainable Development and Practices, which requires, when appropriate, new residential development to exceed, rather than meet, state standards for energy efficiency.

In summary, the Housing Element would not result in the inefficient, wasteful, or unnecessary consumption of energy during construction or operational activities.

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SECTION 6: ALTERNATIVES TO THE PROPOSED PROJECT

6.1 - Introduction

In accordance with CEQA Guidelines Section 15126.6, this Environmental Impact Report (EIR) contains a comparative impact assessment of alternatives to the proposed project. The primary purpose of this section is to provide decision makers and the general public with a reasonable number of feasible project alternatives that could attain most of the basic project objectives, while avoiding or reducing any of the project's significant adverse environmental effects. Important considerations for these alternatives analyses are noted below (as stated in CEQA Guidelines Section 15126.6).

- An EIR need not consider every conceivable alternative to a project;
- An EIR should identify alternatives that were considered by the lead agency, but rejected as infeasible during the scoping process;
- Reasons for rejecting an alternative include:
 - Failure to meet most of the basic project objectives;
 - Infeasibility; or
 - Inability to avoid significant environmental effects.

6.2 - Significant Unavoidable Impacts

The proposed project would result in the following significant unavoidable impacts:

- **Northbound State Route 221 (SR-221) segment south of W. Imola (SR-121) Cumulative LOS:**
The proposed project would contribute significant traffic trips to the segment of SR-221 south of W. Imola (SR-121) in the northbound direction in the PM peak hour, which would already operate at unacceptable LOS in the cumulative scenario before the addition of project traffic.

6.3 - Project Objectives

As stated in Section 2, Project Description, the objectives of the proposed draft Housing Element are to:

1. Use the remaining land in the City's Rural Urban Limit (RUL) efficiently to protect our agricultural surroundings;
2. Provide more varied housing types and choices to meet our needs;
3. Create great neighborhoods;
4. Provide housing for our local special needs populations;
5. Establish a long-term sense of community and responsibility;

6. Maintain existing residential land use and zoning designations; and
7. Meet state and regional housing requirements.

6.4 - Alternatives to the Proposed Project

No Project/Existing Housing Element Alternative

Under this alternative, the existing Housing Element would remain in effect for residential development within the City of Napa. The existing Housing Element identifies the same housing sites as those proposed in the Housing Element and, therefore, also provides sufficient housing sites for the required 2015–2023 Regional Housing Needs Assessment (RHNA) allocation. Further, there is no difference in land use designations or development standards between the existing and proposed Housing Element. As such, under this alternative, the significant unavoidable traffic impact identified above would still occur.

This alternative would not avoid any of the significant unavoidable impacts, nor would it lessen the degree of any less than significant impacts or create additional impacts compared with the proposed Housing Element. Similar to the proposed project, housing development under this alternative would be subject to the City’s Inclusionary Housing Ordinance. This alternative would advance all of the project objectives, but it would not be in compliance with state law requiring revision of a Housing Element every 5 years to ensure consistency with the RHNA allocation assigned to the City.

6.5 - Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) requires an EIR to identify an environmentally superior alternative. If the No Project Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives. Note that where a project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, CEQA Guidelines Section 15126.6(e)(3)(A) provides that the “No Project Alternative” will be the continuation of the existing plan, policy or operation into the future. Typically, this means that other projects initiated under the existing plan will continue while the new plan is developed, and it is thus appropriate to compare the projected impacts of the proposed plan against the impacts that would occur under the existing plan.

As a practical matter, there is no alternative that would reduce or eliminate the cumulative traffic impact that would occur under the proposed project, and, therefore, there is no environmentally superior alternative to the project based on any quantifiable considerations, including the No Project scenario. This is because the significant cumulative traffic impact at the SR-221 roadway segment south of W. Imola Avenue (SR-121) would occur even if the update to the City’s housing element did not occur. Under established CEQA guidance, where there are no alternatives that are clearly environmentally superior to the project, it is sufficient to explain the environmental advantages and disadvantages of any alternatives. As discussed above, the No Project scenario represents the continuation of the City’s current General Plan and Housing Element into the future, pursuant to CEQA Guidelines 15126.6(e)(3)(A). Because the significant and unavoidable cumulative traffic

impact would occur under the No Project scenario and the project would not result in any other significant unavoidable impacts, no further analysis of alternatives or a selection of an environmentally superior alternative is required.

6.6 - Alternatives Rejected from Further Consideration

Other alternatives were considered for this analysis but were rejected from further review because they would not sufficiently reduce project impacts, would not attain most of the basic project objectives, or they would be infeasible. In accordance with CEQA Guidelines section 15126.6(f), factors that may be considered when a Lead Agency is assessing the feasibility of an alternative include “site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent).” One major factor is that state law requires revision of the Housing Element every 5 years to ensure consistency with the RHNA allocation assigned to the City. In accordance with CEQA Guidelines Section 15126.6(c), this section identifies alternatives that were initially considered but rejected from further consideration.

6.6.1 - Reduced Residential Development Intensity

A reduction in overall housing sites, through re-designation of a portion of the sites to a lower development intensity or non-residential land use, may have the potential to reduce trip generation and would therefore reduce the project’s contribution to the significant unavoidable traffic impact. However, the sites would need to be re-designated for potential future development that would, in fact, result in lower trip generation. Such re-designations may not be appropriate in terms of land use compatibility with existing development and designations, thereby resulting in significant land use impacts. Furthermore, re-designation of existing housing sites may hinder the City’s future ability to provide sufficient housing sites, achieve consistency with the RHNA allocation, and comply with State Housing Element law. In addition, reduction of development intensity would reduce the financial feasibility and economic viability of development of the residential sites. As such, implementation of residential construction would be economically impaired. Finally, this alternative has been determined as infeasible because of its inconsistency with existing General Plan designations and regulatory requirements regarding future provision of housing sites.

In summary, this alternative would not meet the CEQA Guidelines objective of avoiding or substantially lessening the proposed project significant effects and, therefore, has been rejected from further consideration.

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SECTION 7: EFFECTS FOUND NOT TO BE SIGNIFICANT

7.1 - Introduction

This section is based on the Notice of Preparation (NOP), dated May 1, 2014, and contained in Appendix A of this Environmental Impact Report (EIR). The NOP was prepared to identify the potentially significant effects of the project and was circulated for public review between May 1 and May 31, 2014.

In the course of this evaluation, certain impacts were found to be less than significant. This section provides a brief description of the effects found not to be significant or less than significant, based on the NOP comments or more detailed analysis conducted as part of the EIR preparation process. Note that a number of impacts that are found to be less than significant are addressed in the various EIR topical sections (Section 3.1 through 3.7) to provide more comprehensive discussion of why impacts are less than significant, in order to better inform decision makers and the general public.

7.2 - Effects Found Not To Be Significant

As stated in Section 2, Project Description, in accordance with state law, the City of Napa proposes to adopt a General Plan Amendment (GPA), updating the General Plan's Housing Element for the 2015–2023 planning period. No changes to land use designations or development standards are proposed. No specific development projects would be approved in connection with adoption of the Housing Element and all future developments will be subject to CEQA review.

7.2.1 - Aesthetics

Scenic Vista

No scenic vistas are identified in the City of Napa General Plan. The City of Napa is surrounded by agricultural lands to the north, the Vaca Mountains to the east, San Pablo Bay to the south, and the Mayacamas Mountains to the west. The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Therefore, no impacts to scenic vistas would occur beyond the development that is already allowed by the current General Plan.

State Scenic Highway

There are no officially designated State Scenic Highways within the City of Napa; however, State Route 29 (SR-29) is eligible for such a designation. The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards, already in effect through the existing General Plan, that could affect development near SR-29. These conditions preclude the potential for impacts to State Scenic Highways. No impact would occur.

Visual Character

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Future housing within the City of Napa, as envisioned by the General Plan, would continue to be required to abide by applicable development and design standards contained in the General Plan. As such, no impact to visual character would occur.

Light and Glare

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Future housing within the City of Napa, as envisioned by the General Plan, would continue to be required to abide by applicable lighting and glare standards contained in the existing General Plan and Municipal Code. As such, no impacts related to light and glare would occur.

7.2.2 - Agricultural Resources

Important Farmland

The California Department of Conservation, Division of Land Protection lists Prime Farmland, Unique Farmland, and Farmland of Statewide Importance under the general category of “Important Farmland” in California. Conversion of “Important Farmland” to non-agricultural uses is generally considered potentially significant. Sites identified for residential development in the Housing Element are residentially zoned and are not identified as Important Farmland. Furthermore, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As such, no impact to would occur.

Williamson Act Contracts or Agricultural Zoning

A significant impact may occur if a project were to result in the conversion of land zoned for agricultural use or under a Williamson Act contract from agricultural use to another non-agricultural use. Sites identified for residential development in the Housing Element are residentially zoned and are not encumbered by Williamson Act contracts. Furthermore, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. No impact would occur.

Conversion of Forest Land to Non-Forest Use

Public Resources Code (PRC) Section 12220(g) defines forest land as “. . . land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” Additionally, timberland is defined by PRC Section 4526 as land “. . . which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products.” Sites identified for residential development in the Housing Element are residentially zoned and do not contain

significant forest lands. Furthermore, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. No impact would occur.

Conflicts with Forest Zoning

A significant impact may occur if a project were to conflict with existing zoning for forest land. Sites identified for residential development in the Housing Element are residentially zoned and would not conflict with forest zoning designations. Furthermore, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. No impact would occur.

Pressures to Convert Farmland to Non-Agricultural Use

As previously noted, the project does not include any specific development projects, nor does it propose any changes to land use designations or development standards, already in effect through the existing General Plan, that could affect agricultural uses. Therefore, the project would not have the potential to create pressures to convert farmland to non-agricultural use. No impacts would occur.

7.2.3 - Biological Resources

Special-Status Species

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Therefore, no impacts to special-status species would occur beyond the development that is already allowed by the current General Plan. All future developments will be subject to CEQA review, during which the potential to impact special-status species would be analyzed.

Riparian Habitat or Other Sensitive Natural Community

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Therefore, no impacts to riparian habitat or other sensitive natural communities would occur beyond the development that is already allowed by the current General Plan. All future developments will be subject to CEQA review, during which the potential to impact riparian habitat or other sensitive natural communities would be analyzed.

Federally Protected Wetlands

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Therefore, no impacts to wetlands would occur beyond the development that is already allowed by the current General Plan. All future developments will be subject to CEQA review, during which the potential to impact wetlands would be analyzed.

Native Resident or Migratory Fish or Wildlife Species

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Therefore, no impacts to native resident or migratory fish or wildlife species would occur beyond the development that is already allowed by the current General Plan. All future developments will be subject to CEQA review, during which the potential to impact native resident or migratory fish or wildlife species would be analyzed.

Local Policies or Ordinances

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Therefore, no impacts related to conflict with local policies or ordinances would occur beyond the development that is already allowed by the current General Plan. All future developments will be subject to CEQA review, during which the potential for conflicts with local policies or ordinances regarding biological resources would be analyzed.

Habitat, Natural Community, or Other Conservation Plan

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. In addition, the City of Napa is not included in any Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan. This condition precludes the potential for impacts to occur. All future developments will be subject to CEQA review, during which the potential to conflict with a habitat, natural community, or other conservation plan would be analyzed.

7.2.4 - Cultural Resources

Historic Resources

A significant impact may occur if a project would cause a substantial adverse change in the significance of a historical resource. The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. These conditions preclude the potential for the project to impact historic resources. No impact would occur.

Archaeological Resources

A significant impact may occur if a project would cause a substantial adverse change in the significance of an archaeological resource. The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. These conditions preclude the potential for the project to impact archaeological resources. No impact would occur.

Paleontological Resources

A significant impact may occur if a project would cause a substantial adverse change in the significance of a paleontological resource. The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. These conditions preclude the potential for the project to impact paleontological resources. No impact would occur.

Human Remains

A significant impact may occur if a project would disturb any human remains. The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. These conditions preclude the potential for the project to impact human remains. No impact would occur.

7.2.5 - Geology, Soils, and Seismicity

Soil Erosion or Topsoil Loss

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. This condition precludes the potential for the project to result in substantial soil erosion or the loss of topsoil beyond the development that is already allowed by the current General Plan. No impact would occur.

Unstable Soil

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. This condition precludes the potential for residences to be located on soil that is unstable or becomes unstable as a result of the project beyond the development that is already allowed by the current General Plan. No impact would occur.

Expansive Soil

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. This condition precludes the potential for the project to be located on expansive soil beyond what may already be allowed by the General Plan. No impact would occur.

Septic and Alternative Wastewater Disposal Systems

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. This condition precludes the potential for septic tanks or alternative waste disposal systems to be located on soils incapable of adequately supporting the use of these systems beyond the development that may already be allowed by the current General Plan. No impact would occur.

7.2.6 - Hazards and Hazardous Materials

Transport of Hazardous Materials

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As a result, there will be no routine transport, use, or disposal of hazardous materials. This condition precludes the potential for a significant hazard to the public or environment beyond the development that is already allowed by the current General Plan. No impact would occur.

Release of Hazardous Materials

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As a result, the proposed project will not involve the release of hazardous materials. This condition precludes the potential for a significant hazard to the environment beyond the development that is already allowed by the current General Plan. No impact would occur.

Hazardous Emissions

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As a result, the project does not have the potential to affect existing or proposed schools because no development will take place and the project will not emit hazardous emission or handle hazardous materials. No impact would occur.

Hazardous Materials Site

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Since no development will take place, there is no potential for the project to be located on a site that is included on a list of hazardous materials sites. No impact would occur.

Airport Land Use Plan

The nearest Airport to the City of Napa is the Napa County Airport, which is approximately 4 miles south of the City. None of the identified housing sites are located within the airport's compatibility plan area. The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Since no development will take place, there is no potential for the project to result in a safety hazard for people residing or working in the project area. No impact would occur.

Private Airstrip

There are no private airstrips within the City of Napa. In addition, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Since no development

will take place, there is no potential for the project to result in a safety hazard for people residing or working in the project area. No impact would occur.

Emergency Response or Evacuation Plan

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. All future development would be required to adhere to regulations regarding emergency access and response. Since there will be no development and no new trips from residences or workers, there is no potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No impact would occur.

Wildland Fires

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Future housing sites are primarily located within urban areas that would not be affected by wildland fires. This condition precludes the potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires beyond the development that is already allowed by the current General Plan. No impact would occur.

7.2.7 - Hydrology and Water Quality

Water Quality Standards

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. This condition precludes the potential to violate any water quality standards or waste discharge requirements. No impact would occur.

Groundwater Supplies

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As the project will not require the use of groundwater, this condition precludes the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge. No impact would occur.

Erosion or Siltation

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As the project does not involve development, the existing drainage pattern will remain as it is. This condition precludes the project's potential to substantially alter the drainage pattern of a site or area where substantial erosion or siltation would occur on- or off-site. No impact would occur.

Surface Runoff

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As the project does not involve development, the existing drainage pattern will remain as it is. This condition precludes the project's potential to substantially alter the drainage pattern of a site or area where the rate or amount of surface runoff would be altered and result in flooding on- or off-site. No impact would occur.

Flooding

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Sites identified for future residential development are located within the 100-year flood plain; however, implementation of regulations regarding residential construction in a flood plain would ensure first-floor levels of structures are above the flood hazard level. These conditions preclude the potential for impacts to occur related to housing or structures in a 100-year flood plain beyond the development that is already allowed by the current General Plan. No impacts would occur.

Levee or Dam Failure

The City of Napa could experience flooding as a result of failure of the Conn Creek, Milliken, or Reactor Reservoir dams or levees along the Napa River. While some of the housing sites are located within inundation areas identified in the General Plan, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. This condition precludes the potential to for the project to result in exposure to levee or dam failure beyond that envisioned by the General Plan beyond the development that is already allowed by the current General Plan. No impact would occur.

Seiche, tsunami, or mud flow

Seiches are waves in inland bodies of water produced by earthquakes or landslides. There are no bodies where a seiche could occur in the City of Napa. The City of Napa is approximately 10 miles inland from the San Pablo Bay and approximately 31 miles inland from the San Francisco Bay and thereby precluding the risk of inundation by a tsunami. The City of Napa is urbanized and relatively flat and would not be susceptible to mudflows. In addition, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. These conditions preclude the potential for inundation by seiche, tsunami, or mudflow. No impact would occur.

7.2.8 - Land Use and Planning

Habitat or Natural Communities Conservation Plans

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing

General Plan. In addition, the City of Napa is not included in any Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan. These conditions preclude the potential for the project to conflict with any provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plans. No impact would occur.

7.2.9 - Mineral Resources

Minerals of Statewide Importance

The City of Napa does not contain any mineral extraction operations or known deposits of minerals of statewide importance (aggregate, oil, precious metals, etc.). Furthermore, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As such, project implementation would not result in the loss of availability of minerals of statewide importance. No impacts would occur.

Minerals of Local Importance

The City of Napa does not identify any minerals of local importance. As previously noted, the City does not contain any mineral extraction operations or known deposits of minerals. Furthermore, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As such, project implementation would not result in the loss of availability of minerals of local importance. No impacts would occur.

7.2.10 - Noise

Aviation Noise

The City of Napa does not contain any public or private airports. The closest airport to the City of Napa is the Napa County Airport, located approximately 4 miles south of the downtown area and 0.9 mile south of the City limits. However, according to Figure 5C of the Napa County Airport Land Use Compatibility Plan (1999), the City does not lie within the 55 dBA CNEL noise contours of this airport. None of the identified residential sites are located within the Napa County Airport Land Use Compatibility Plan area. In addition, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. These conditions preclude the potential for the project to expose people to excessive aviation noise levels. No impact would occur.

7.2.11 - Population and Housing

Displacement of Persons or Housing

Displacement of existing persons or housing could occur if changes were proposed that would redesignate property from residential to non-residential use. The proposed project does not include any changes to residential land use designations; therefore, it would not result in displacement of persons or existing housing. In addition, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development

standards already in effect through the existing General Plan. Therefore, it would not result in displacement of persons or existing housing and no impact would occur.

7.2.12 - Public Services

Fire

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan and would not increase demand for fire or emergency services beyond that envisioned in the General Plan. As such, no impact would occur.

Police

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan and would not increase demand for police services beyond that envisioned in the General Plan. Therefore, no impact would occur.

Schools

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan and would not increase the demand for school services beyond that envisioned in the General Plan. As such, no impact would occur.

Parks

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan and would not increase the demand or use of parks beyond that envisioned in the General Plan. Therefore, no impact would occur.

Other Public Facilities

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan and would not increase the need for other public facilities beyond that envisioned in the General Plan. As such, no impact would occur.

7.2.13 - Recreation

Increased Use, Construction, or Expansion

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As such, there would not be an increase in demand for parks or the need for construction or expansion beyond what is envisioned in the General Plan. As such, no impact would occur.

7.2.14 - Transportation and Traffic

Air Traffic Patterns

The City of Napa does not contain any public or private airports. The closest airport to the City of Napa is the Napa County Airport, located approximately 4 miles south of the downtown area and 0.9 mile south of the City limits. None of the identified residential sites are located within the Napa County Airport Land Use Compatibility Plan area. In addition, the proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. These conditions preclude the potential for the project to alter air traffic patterns. No impact would occur.

Hazards/Incompatible Uses

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Future housing site development would be reviewed for appropriate traffic ingress and egress prior to approval by the City. As such, no impacts would occur.

Inadequate Emergency Access

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. Future housing site development would be reviewed for appropriate traffic access prior to approval by the City. As such, no impacts would occur.

7.2.15 - Utilities and Service Systems

Wastewater Treatment Requirements

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. There would not be an increase in water demand beyond what is envisioned in the General Plan and, therefore, the project would not have the potential to exceed wastewater treatment requirements of the San Francisco Regional Water Quality Control Board. No impact would occur.

Water or Wastewater Treatment Facilities

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As such, the project would not result in any water or wastewater treatment requirements beyond that envisioned in the General Plan. Therefore, the project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. No impact would occur.

Stormwater Drainage Facilities

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing

General Plan. As such, the project would not result in an increase in stormwater beyond that envisioned in the General Plan. Therefore, the project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. No impact would occur.

Water Supplies

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As such, the project would not result in an increase in water demand beyond that envisioned in the General Plan. Therefore, sufficient water supplies exist. No impact would occur.

Wastewater Treatment Capacity

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan. As such, the project would not result in an increased need for wastewater treatment beyond that envisioned in the General Plan. Therefore, adequate wastewater treatment capacity exists. No impact would occur.

Solid Waste

The proposed project does not include any specific development projects, nor does it propose any changes to land use designations or development standards already in effect through the existing General Plan and would not result in increased solid waste production beyond that envisioned in the General Plan. Therefore, sufficient landfill capacity exists and would be consistent with federal, state, and local solid waste regulations. No impact would occur.

SECTION 8: PERSONS AND ORGANIZATIONS CONSULTED/LIST OF PREPARERS

8.1 - Persons and Organizations Consulted

8.1.1 - Public Agencies

California Department of Fish and Wildlife

Regional Manager - Bay Delta Region Scott Wilson
Environmental Scientist Suzanne Gilmore

8.2 - List of Preparers

8.2.1 - Lead Agency

City of Napa

Community Development Department, Planning Division

Community Development Director Rick Tooker
Planning Manager Ken MacNab

Public Works Department, Development Engineering Division

Transportation Planner Lorien Clark

8.3 - Lead Consultant

8.3.1 - FirstCarbon Solutions

Project Director Mary Bean
Project Manager Janna Waligorski
Senior Air Quality Chryss Meier
Noise Analyst Phil Ault
Environmental Analyst Jacqueline De La Rocha
Legal Counsel Jennifer Guenther
Tracy Owens
Technical Editor Ed Livingston
GIS Technician Karlee McCracken
John De Martino
Reprographics Octavio Perez

8.4 - Technical Subconsultants

8.4.1 - JHD Planning

Consulting Planner John Douglas

8.4.2 - Kittelson & Associates

Principal Engineer Mike Aronson
Associate Planner Debbie Yueh

SECTION 9: REFERENCES

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