

DRAFT
Environmental Impact Report
Elnoka Continuing Care Retirement Community (CCRC) Project
City of Santa Rosa, Sonoma County, California
State Clearinghouse Number 2017072021

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg/m ³	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ACP	Alternative Compliance Plan
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AED	automatic external defibrillator
AF	acre-foot
AFY	acre-feet/year
AIA	Airport Influence Area
AIC	Archaeological Information Center
AICUZ	Air Installation Compatibility Use Zone
AL	Assisted Living and Memory Care
ALUC	Airport Land Use Commission
APCD	Air Pollution Control District
APE	Area of Potential Effect
APEZ	Air Pollutant Exposure Zones
APN	Assessor's Parcel Number
AQI	Air Quality Index
AQMD	Air Quality Management District
AQP	Air Quality Plan
ARB	California Air Resources Board
ARPA	Archaeological Resources Protection Act
AST	aboveground storage tank
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BAU	Business As Usual
BCDC	Bay Conservation and Development Commission
BMP	Best Management Practice
BVOC	biogenic volatile organic compound

c/mve	collisions per million vehicles entering
CA MUTCD	California Manual on Uniform Traffic Control Devices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CA FID	California Facility Inventory Database
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Health and Safety Administration
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Clean Air Plan
CAPCOA	California Air Pollution Officers Association
CBC	California Building Standards Code
CCAA	California Clean Air Act
CCR	Community Center Residential
CCRC	Continuing Care Retirement Community
CCTS	Central California Taxonomic System
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFD	Community Facilities District
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CHL	California Historical Landmarks
CIP	Capital Improvement Program
CMA	Congestion Management Agency
CMP	Congestion Management Plan
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO ₂	carbon dioxide

CO ₂ e	carbon dioxide equivalent
CPHI	California Points of Historical Interest
CPUC	California Public Utilities Code
CR	Cluster Residential
CRF	Cluster Residential—Future
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CS	Community Support
CTR	California Toxics Rule
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dba	A-weighted decibel
dba/DD	dba doubling of the distance
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
EV	electric vehicle
FAA	Federal Aviation Administration
FAR	floor area ratio
FCS	FirstCarbon Solutions
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
FYLF	foothill yellow-legged frog
gal/day	gallons per day
GHG	greenhouse gas
GIS	Geographical Information System
GPCD	gallons per capita per day
GWh	gigawatt-hour
GWh/y	gigawatt-hours per year
GWP	global warming potential
HAP	Housing Allocation Plan

Acronyms and Abbreviations

HAZNET	Hazardous Waste Information System
HCD	California Department of Housing and Community Development
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HDPE	high-density polyethylene
HFC	hydrofluorocarbon
HI	hazard index
HMBP	hazardous materials business plans
HMUPA	Hazardous Materials Unified Program Agency
HOA	Homeowner's Association
HOV/HOT	High Occupancy Vehicle/High Occupancy Toll
HRA	Health Risk Assessment
HRI	California Historical Resources Inventory
HUD	United States Department of Housing and Urban Development
HVAC	heating, ventilation, and air conditioning
HWCL	Hazardous Waste Control Law
ICC	International Code Council
ICF	Institute for Canine Forensics
IPCC	United Nations Intergovernmental Panel on Climate Change
IS	Initial Study
ITE	Institute of Transportation Engineers
kBTU	kilo-British Thermal Unit
kWh	kilowatt-hour
lb	pound
LBP	lead-based paint
LCFS	Low Carbon Fuel Standard
LD	Low Density Residential
L _{dn}	day/night average sound level
LED	light emitting diode
L _{eq}	equivalent sound level
LEV	Low Emission Vehicle
LHMP	Local Hazard Mitigation Plan
LID	Low Impact Development
L _{max}	maximum noise level
L _{min}	minimum noise/sound level
LOS	Level of Service
LRA	Local Responsibility Area
LUST	leaking underground storage tank

MBTA	Migratory Bird Treaty Act
MD	Medium Density Residential
MEDF	Medical Facility Scene Call Program
mgd	million gallons per day
MIR	maximum impacted receptor
MLD	most likely descendant
MM	Mitigation Measure
mph	miles per hour
MS4	Municipal Separate Storm Sewer System
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
MUTCD	Manual on Uniform Traffic Control Devices
M _w	maximum moment magnitude
MWh	megawatt-hour
MXD	mixed-use development
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NASA	National Air and Space Administration
NCCP	Natural Community Conservation Plan
NDC	nationally determined contributions
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO ₂	nitrogen dioxide
NOAA	National Oceanographic and Atmospheric Administration
NOC	Notice of Completion
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTR	National Toxics Rule
NWIC	Northwest Information Center

Acronyms and Abbreviations

O ₃	ozone
OAI	Office of Administrative Law
OEHHA	California Office of Environmental Health Hazard Assessment
OHWM	ordinary high water mark
ONAC	Federal Office of Noise Abatement and Control
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
pCi/l	picocuries per liter
PDA	Priority Development Area
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
Phase I ESA	Phase I Environmental Site Assessment
PM	particulate matter
PM ₁₀	particulate matter, including dust, 10 micrometers or less in diameter
PM _{2.5}	particulate matter, including dust, 2.5 micrometers or less in diameter
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
REL	reference exposure level
RHNA	Regional Housing Needs Allocation
RMP	Risk Management Plan
rms	root mean square
ROGs	reactive organic gases
RPS	renewables portfolio standard
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SCP	Sonoma Clean Power
SCT	Sonoma County Transit
SCTA	Sonoma County Transportation Authority
SCWMA	Sonoma County Waste Management Agency
SF ₆	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SIP	State Implementation Plan
SMARA	California Surface Mining and Reclamation Act

SO ₂	sulfur dioxide
SoCoAlert	Sonoma County Emergency Alert System
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SRA	State Responsibility Area
SRFD	Santa Rosa Fire Department
State Water Board	California State Water Resources Control Board
SUSMP	Standard Urban Storm Water Mitigation Plan
SWEEP	State Water Efficiency and Enhancement Program
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Storm Water Quality Management Plan
TAC	toxic air contaminant
TAZ	traffic analysis zones
TCM	transportation control measures
TCR	Tribal Cultural Resources
TDM	Transportation Demand Management
TDS	total dissolved solids
Tg	teragram
therms/y	therms per year
TMA	Transportation Management Association
TMDL	Total Maximum Daily Load
TOD	Transit Oriented Development
TPW	Transportation and Public Works Department
UCMP	University of California Museum of Paleontology
UGB	Urban Growth Boundary
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
V/C	volume to capacity ratio
VdB	vibration in decibels
VDECS	Verified Diesel Emission Control Strategies
VLD	Very Low Density Residential
VMT	vehicle mile traveled

Acronyms and Abbreviations

VOC	volatile organic compound
WDR	Waste Discharge Requirements
WEAP	worker’s environmental awareness program
WELO	Water Efficient Landscape Ordinance
WHO	World Health Organization
WSA	Water Supply Assessment
WUI	Wildland Urban Interface

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 Elnoka Continuing Care Retirement Community Project (State Clearinghouse No. 2017072021). This document is prepared in conformance with CEQA (California Public Resources Code [PRC], § 21000, *et seq.*) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, § 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 Elnoka Continuing Care Retirement Community Project (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 site is located on 17 lots including 6100 and 6160 Sonoma Highway, where the project fronts State Highway 12 (known locally as the Sonoma Highway and referred to herein as the Sonoma Highway), and 300–425 Elnoka Lane in the southeastern portion of Santa Rosa in the urban/rural fringe. The project site consists of 17 Assessor's Parcel Numbers (APNs): 031-061-003, 031-050-014, 031-050-018, 031-050-019, 031-050-060, 031-050-061, 031-050-062, 031-050-063, 031-050-064, 031-050-065, 031-050-066, 031-050-067, 031-050-068, 031-050-069, 031-050-070, 031-050-071, and 031-050-072.

The approximately 68.73-acre site is located in the eastern portion of the City of Santa Rosa and is bounded by Sonoma Highway (northeast); Oakmont Village (southeast); Trione-Annadel State Park and Channel Drive (southwest); and Melita Road (northwest).

Project Description

Elnoka Continuing Care Retirement Community (Elnoka CCRC or project) proposes the development of 676 residential units, comprised of 74 cottages, 528 apartments, 12 attached units that are intended for employee housing, and a 62-unit care center. The project includes amenities for Elnoka residents such as private and formal dining rooms, a café, entertainment and activity rooms, sport courts, swimming pool, pet parks, walking paths, a beauty salon, reading rooms, banking services, business center, and outside courtyards. In addition, the staff would provide housekeeping, emergency response, exercise programs, and living assistance for memory or physically impaired residents.

The proposed land use type constitutes a Community Care Facility, which is defined by the Santa Rosa City Code Chapter 20-70 as: “A facility, place, or building that is maintained and operated to provide non-medical residential care, which may include home finding and other services, for children and/or adults, including: the physically handicapped; mentally impaired, mentally disordered, or incompetent; developmentally disabled; court wards and dependents; neglected or emotionally disturbed children; the addicted; and the aged.” The project would be State licensed and regulated as a continuing care retirement community (Chapter 10, Division 2 of the State Health and Safety Code; Title 22, Division 6, Chapter 8 of CCR § 87100, *et seq.*).

The project would be developed in phases over time. The first phase would contain 202 units of project housing, including 12 attached units intended for employee housing. The remaining 462 units would be built in subsequent phases over time based on market conditions. There would be a total of approximately 975 residents on-site at full buildout (1.42 seniors per unit plus an average of 2.62 persons per employee units). The project would employ approximately 194 people in full- and part-time positions, including care staff, housekeepers, landscaping, maintenance, administrative and recreation center staff. There would be an average of 75 employees on-site daily. Residents and employees will likely be drawn largely from the Santa Rosa area.

Project Objectives

The project sponsor’s objectives of the project are to:

1. Positively contribute to the local economy through new capital investment, the construction of new dwelling units, and the creation of new recreational pursuits.
2. Develop a vacant infill site within the City limits in an economically viable manner while taking into consideration the security, safety, and privacy needs of the senior community to be served by the project along with various site constraints and the desire to minimize impact to the natural terrain to the extent feasible.
3. Create a range of senior housing opportunities to meet market demand for this type of housing product in Sonoma County.
4. Develop a complete community with a flexible range of residential options, recreational amenities, and daily services to cater to the needs of residents and to reduce off-site vehicle trips.
5. Provide market rate units intended for on-site employee housing in the interests of reducing commute times and contributing to the City’s housing stock.
6. Provide efficient and safe access to and from the project site and effectively manage traffic in the vicinity of the project site.
7. Cluster residential development on the project site to preserve significant amounts of open space areas adjacent to the riparian corridors.
8. Preserve and protect Oakmont Creek by establishing a greenway along the creek corridor. This greenway would be provided for use by residents and staff. It would not be open to the public.

9. Promote land use compatibility with neighboring residential uses through the use of clustering, preservation of significant amounts of trees, thoughtful site design that takes into consideration the natural topography, landscaped setbacks, and the preservation of substantial amounts of natural open space.

Significant Unavoidable Adverse Impacts

The project would result in the following significant unavoidable impacts:

- **Scenic Vista:** The project's placement of homes along the natural contours of the site would maintain the natural curvature of the hill and proposed landscaping, trees, and shrubs would enhance screening throughout the project site to minimize the visual impacts of the buildings and homes. However, despite these design features, the impact of developing the project's 676 residential units on approximately 68 acres results in a visually dense character that is aesthetically inconsistent with surrounding areas, thereby adversely affecting the scenic vista as viewed from Los Alamos Road, which is designated as a Scenic Road for its views of scenic vistas, and other surrounding public locations. Due to site configuration constraints, no mitigation is available for the proposed project that would reduce this impact to less than significant. As such, although the land use would be consistent with applicable General Plan 2035 and Zoning regulations, including the modified Policy Statement, a significant unavoidable impact would occur.
- **Visual Character:** The project site is a prominent portion of the overall middle-distance view as seen from Los Alamos Road (a designated scenic road). The building density and massing of the project is inconsistent with the visual character of the surrounding views of rural residential uses. As such, the visual character of the area as seen from this viewpoint is adversely affected and impacts would be significant. In addition, views of the project site from higher elevations in Trione-Annadel State Park as well as near the entrance on Channel Drive to Trione-Annadel State Park would be visually inconsistent with the surrounding visual character similar to the impact to views seen from Los Alamos Road. Therefore, impacts to other publicly-available views of the project site and surrounding area as seen from afar (particularly higher elevations in Trione-Annadel State Park) would be significant. No mitigation is available for the proposed project that would reduce this impact to less than significant due to site configuration constraints. As such, a significant and unavoidable impact would occur.

Summary of Project Alternatives

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

No Project Alternative

Under the No Project Alternative, the site would remain in its current, mostly undeveloped condition.

Existing General Plan Designation Alternative

Under the Existing General Plan Designation Alternative, a CCRC would not be constructed and operated on the site. Instead, the project site would be developed in accordance with existing Santa Rosa General Plan 2035 land use designations. These designations include approximately 53.26 acres of Very Low Density Residential (0.2-2.0 units per acre), approximately 6.65 acres of Low Density Residential (2-8 units per acre), and approximately 9.07 acres Medium Density Residential (8-18 units per acre), as shown in Chapter 2, Project Description, Exhibit 2-6, General Plan Land Use Designations. This would allow for the development of up to 161 single-family residences and up to 164 attached units, a total of 325 units. Depending on the level of affordability the site would have additional development potential for 114 Density Bonus units, bringing the total to 439 units.

Reduced Density Alternative

Under the Reduced Density Alternative, the proposed development would be reduced to that allowed by the current Planned Development Policy Statement, a maximum of 460 units, by removing Building N and P and all garages south of Oakmont Creek, and replacing Buildings G, H, J, K, M, and L with 36 cottages; removing Building C, reducing Building B to 40 units, and removing four of the 12 units located adjacent to Sonoma Highway, which are intended for employee housing. The 460 units would be comprised of approximately 110 senior cottages, 280 senior apartments, 62 residential care units, and 8 units intended for employee housing. Overall, 216 fewer units would be constructed. The recreational amenities would be increased adjacent to the Recreation Center and south of Oakmont Creek adjacent to Channel Drive, where Building N and P and garages were removed. The cottages would still be single-story 2-bedroom homes of up to approximately 2,500 square feet and be designed with the same architectural features as the proposed project. Project access would also be the same as the proposed project. This alternative would reduce overall building massing on-site as well as reduce the project's traffic trips.

Reconfigured Site Plan Alternative

Under this alternative, the proposed site plan would be reconfigured to provide a wider buffer around biologically and archaeologically sensitive areas of the project site. The total number of community care units that would be developed under this alternative would be the same as the project (676 units); however, no development would occur south of Annadel and Oakmont Creeks or on the hillside closest to the confluence of those creeks. Specifically, apartment buildings M, N and P proposed by the project in that area would not be built. Instead, the 67 units from those buildings would be transferred to apartment buildings D, E, J, K and the western arm of building B, located toward the interior of the site. The height of those buildings would be increased from 43 to 50 feet in order to accommodate the additional units. All other community care development—the cottages, the 62-bed care center, the employee housing—would be constructed as with the project. Access to and from the site would be the same as under the project; however, this alternative would result in a more compact development footprint and a greater amount of natural open space on the site.

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 project was issued on July 12, 2017. The NOP describing the original concept for the project and issues to be addressed in the EIR was distributed to the State Clearinghouse, responsible agencies, and other interested parties for a 30-day public review period extending from July 12, 2017, through August 11, 2017. The NOP identified the potential for significant impacts on the environment related to the following topical areas:

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

Disagreement Among Experts

This Draft EIR contains substantial evidence to support all the conclusions presented herein. It is possible that there will be disagreement among various parties regarding these conclusions, although the City of Santa Rosa is not aware of any disputed conclusions at the time of this writing. Both the CEQA Guidelines and case law clearly provide the standards for treating disagreement among experts. Where evidence and opinions conflict on an issue concerning the environment, and the lead agency knows of these controversies in advance, the EIR must acknowledge the controversies, summarize the conflicting opinions of the experts, and include sufficient information to allow the public and decision-makers to make an informed judgment about the environmental consequences of the proposed project.

Potentially Controversial Issues

Below is a list of potentially controversial issues that may be raised during the public review and hearing process of this Draft EIR:

- Sonoma Highway is an important regional arterial street that carries between 26,500 and 77,000 vehicles per day on segments that pass through the City. While the highest volumes occur near the junction with US 101, Sonoma Highway is a key transportation route in the project vicinity and careful consideration of potential cumulative traffic impacts along this roadway will be needed.

- As Sonoma Highway is an officially designated State Scenic Highway and Melita Road is designated as a Scenic Road in the Santa Rosa General Plan 2035, aesthetics impacts to views from these roadways will need to be closely evaluated. Additionally, changes to the visual character of the site, including those associated with the on-site ridgeline, will be assessed for consistency with City of Santa Rosa General Plan 2035, Zoning Code, and applicable Design Guidelines.
- With residences adjacent to the northwest and southeast, potential neighborhood impacts related to air quality, noise, and local traffic will also need to be quantified and assessed.
- Potential impacts to known cultural resources in the site vicinity will also need to be carefully evaluated.
- Given the presence of creeks and wetland areas on the site, the EIR will need to closely examine potential impacts related to biological resources, water quality, and flooding on- and off-site.

It is also possible that evidence will be presented during the 45-day, statutory Draft EIR public review period that may create disagreement. Decision-makers would consider this evidence during the public hearing process.

In rendering a decision on a project where there is disagreement among experts, the decision-makers are not obligated to select the most environmentally preferable viewpoint. Decision makers are vested with the ability to choose whatever viewpoint is preferable and need not resolve a dispute among experts. In their proceedings, decision-makers must consider comments received concerning the adequacy of the Draft EIR and address any objections raised in these comments. However, decision-makers are not obligated to follow any directives, recommendations, or suggestions presented in comments on the Draft EIR, and can certify the Final EIR without needing to resolve disagreements among experts.

Public Review of the Draft EIR

Upon completion of the Draft EIR, the City of Santa Rosa filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (PRC § 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).

Due to the COVID-19 crisis, City facilities are currently closed to the public. A copy of the Draft EIR can be reviewed online at: <https://srcity.org/425/Plans-Studies-EIRs>. Once public access to City facilities resumes, a hard copy of the EIR can be viewed at the following locations (please check with the facility for hours of operation):

City of Santa Rosa
100 Santa Rosa Avenue, Room 3
Santa Rosa, CA, 95404

Hours:

Monday, Tuesday, Thursday: 8:00 a.m.–4:30 p.m.
Wednesday: 10:30 a.m.–4:30 p.m.
Friday: 8:00 a.m.–12:00 p.m.

Rincon Valley Library
6959 Montecito Boulevard
Santa Rosa, CA 95409

Hours:

Tuesday, Thursday, Friday: 10:00 a.m.–6:00 p.m.
Saturday: 10:00 a.m.–4:00 p.m.

Oakmont Community Foundation Building
OVA Office
6637 Oakmont Drive, Suite A
Santa Rosa, CA 95409

Hours: Monday through Wednesday via appointment at:
<https://oakmontvillage.com/book>

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:

Kristinae Toomians, Senior Planner
Planning and Economic Development
100 Santa Rosa Avenue, Room 3
Santa Rosa, CA, 95404
Phone: 707.543.4692
Fax: 707.543.3269
Email: ktoomians@srcity.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 of Santa Rosa 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.

Executive Summary Matrix

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

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Table ES-1: Executive Summary Matrix

Impacts	Mitigation Measures	Level of Significance After Mitigation
Section 3.1—Aesthetics		
Impact AES-1: The proposed project would have a substantial adverse effect on a scenic vista as viewed from Los Alamos Road, designated as a Scenic Drive.	No mitigation is available.	Significant and unavoidable impact.
Impact AES-2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway.	No mitigation is necessary.	Less than significant impact.
Impact AES-3: The proposed project would be consistent with applicable zoning and other regulations governing scenic quality but would substantially degrade the existing visual character or quality of public views of the site from Channel Drive, and other surroundings areas.	No mitigation is available.	Significant and unavoidable impact.
Impact AES-4: The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	MM AES-1: Design Standards As part of the design review process for the project, the applicant shall incorporate the following features into the project’s design: <ul style="list-style-type: none"> Structures facing a public street or neighboring property shall use minimally reflective glass, and other materials and colors used on the exterior of buildings and structures shall be selected with attention to minimizing reflective glare. Building windows shall be tinted with an anti-reflective material. 	Less than significant impact with mitigation incorporated.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant cumulative impact.
Section 3.2—Air Quality		
Impact AIR-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	Implement MM AIR-2 and MM AIR-3.	Less than significant impact with mitigation incorporated.

Impacts	Mitigation Measures	Level of Significance After Mitigation
<p>Impact AIR-2: The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard.</p>	<p>MM AIR-2: During construction, the following air pollution control measures shall be implemented, and shown clearly on under the heading of General Notes on plan sets submitted for grading permits:</p> <ul style="list-style-type: none"> • Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day, or more as needed. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads and surfaces shall be limited to 15 miles per hour. • All roadways, driveways, and sidewalks shall be paved as soon as possible. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • A publicly visible sign shall be posted on all street facing elevations that provides contact information, including a telephone number, and email address of the General Contractor for complaints related to dust or other construction activities. This person shall respond and take corrective action within 2 days of a complaint. The BAAQMD’s phone number shall also be provided on the same sign to ensure compliance with applicable regulations. 	<p>Less than significant impact with mitigation incorporated.</p>
<p>Impact AIR-3: The proposed project would not expose sensitive receptors to substantial pollutant concentrations.</p>	<p>Implement MM AIR-2 and the following: MM AIR-3: The applicant shall ensure all off-road construction equipment in excess of 50 horsepower used on-site by the developer or contractors is equipped with engines meeting the EPA Tier IV off-road engine emission standards. The construction contractor shall maintain a log of equipment</p>	<p>Less than significant impact with mitigation incorporated.</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
	use at the construction site with make, model, serial number, and certification level of each piece of construction equipment that will be available for review by the City's building inspection staff.	
Impact AIR-4: The proposed project would not result in other emissions (such as those leading to odors) that would adversely a substantial number of people.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant cumulative impact.
Section 3.3—Biological Resources		
Impact BIO-1: The proposed project may have a substantial adverse impact on special-status plant and wildlife species.	MM BIO-1a: California Red-legged Frog Protection <ul style="list-style-type: none"> A. To the extent practicable, the applicant shall avoid construction during the wet season when California red-legged frog (CRLF) are most active. Except for limited vegetation clearing (necessary to minimize effects to nesting birds), work shall be limited to the dry season (from June 1 to October 31). B. The applicant shall retain a United States Fish and Wildlife Service (USFWS)-approved Biologist to survey the project site no more than 7 days before the onset of any ground-disturbing activities. If any life stage of the CRLF is detected, construction activities shall not be allowed to commence until consultation with the USFWS has occurred in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the USFWS as may be applicable to the project under the Federal Endangered Species Act (FESA). C. Before any ground-disturbing activities begin on the project, the applicant shall retain a USFWS-approved Biologist to conduct a worker's environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the CRLF and its habitat, and the specific measures that are being implemented to conserve the CRLF for the project. Brochures, books, and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions. D. The applicant shall revegetate utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected 	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the USFWS and the project applicant determine that it is not feasible or practical.</p> <p>E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using approved fencing in order to minimize project-related disturbance to potential CRLF habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.</p> <p>MM BIO-1b: Foothill Yellow-legged Frog Protection</p> <p>A. To the extent practicable, the applicant shall avoid construction during the wet season when foothill yellow-legged frogs are most active. Except for limited vegetation clearing (necessary to minimize effects to nesting birds) work shall be limited to the dry season (from June 1 to October 31).</p> <p>B. No more than 7 days prior to the first ground-disturbing activities, the applicant shall retain a qualified wildlife Biologist to conduct a focused survey for foothill yellow-legged frog to determine presence or absence of this species within a 100-foot radius of the disturbance area. If the species is observed within the disturbance area and/or the 100-foot radius during the focused survey, the California Department of Fish and Wildlife (CDFW) shall be contacted and all construction activities within the disturbance area must be delayed until an appropriate course of action is established and approved by the CDFW in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the CDFW as may be applicable to the project under the California Endangered Species Act (CESA).</p> <p>C. Before any ground-disturbing activities begin on the project, the applicant shall retain an approved Biologist to conduct a worker's environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the foothill yellow-legged frog and its habitat, and the specific measures that are being implemented to conserve the foothill yellow-legged frog for the project. Brochures, books,</p>	

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions.</p> <p>D. The applicant shall revegetate any impacted riparian areas utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the CDFW and project applicant determine that it is not feasible or practicable.</p> <p>E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using approved fencing in order to minimize project-related disturbance to potential foothill yellow-legged frog habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.</p> <p>MM BIO-1c: California Giant Salamander Protection</p> <p>A. To the extent practicable, the applicant shall avoid construction during the wet season when the California giant salamander are most active. Except for limited vegetation clearing (necessary to minimize effects to nesting birds) work shall be limited to the dry season (from June 1 to October 31).</p> <p>B. No more than 7 days prior to the first ground-disturbing activities, the applicant shall retain a qualified wildlife Biologist to conduct a focused survey for the California giant salamander to determine presence or absence of this species within a 100-foot radius of the disturbance area. If the species is observed the disturbance area and/or the 100-foot radius during the focused survey, the California Department of Fish and Wildlife (CDFW) shall be contacted and all construction activities within the disturbance area must be delayed until an appropriate course of action is established and approved by the CDFW in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the CDFW as may be applicable to the project under the California Endangered Species Act (CESA).</p>	

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>C. Before any ground-disturbing activities begin on the project, the applicant shall retain an approved Biologist to conduct a worker’s environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the California giant salamander and its habitat, and the specific measures that are being implemented to conserve the California giant salamander for the project. Brochures, books, and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions.</p> <p>D. The applicant shall revegetate any impacted riparian areas utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the CDFW and project applicant determine that it is not feasible or practical.</p> <p>E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using approved fencing in order to minimize project-related disturbance to potential California giant salamander habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.</p> <p>MM BIO-1d: Red-bellied Newt Protection</p> <p>A. To the extent practicable, the applicant shall avoid construction during the wet season when the red-bellied newt most active. Except for limited vegetation clearing (necessary to minimize effects to nesting birds) work shall be limited to the dry season (from June 1 to October 31).</p> <p>B. No more than 7 days prior to the first ground-disturbing activities, the applicant shall retain a qualified wildlife Biologist to conduct a focused survey for the red-bellied newt to determine presence or absence of this species within a 100-foot radius of the disturbance area. If the species is observed within the disturbance area and/or the 100-foot radius during the focused survey, the California Department of Fish and Wildlife (CDFW)</p>	

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>shall be contacted and any construction activities within the disturbance area must be delayed until an appropriate course of action can be established and approved by the CDFW in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the CDFW as may be applicable to the project under the California Endangered Species Act (CESA).</p> <p>C. Before any ground-disturbing activities begin on the project, the applicant shall retain an approved Biologist to conduct a worker’s environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the red-bellied newt and its habitat, and the specific measures that are being implemented to conserve the red-bellied newt for the project. Brochures, books, and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions.</p> <p>D. The applicant shall revegetate any impacted riparian areas utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the CDFW and project applicant determine that it is not feasible or practical.</p> <p>E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using approved fencing in order to minimize project-related disturbance to potential red-bellied newt habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.</p> <p>MM BIO-1e: Western Pond Turtle Protection</p> <p>A. The applicant shall avoid construction when adults and hatchlings are overwintering (October 1 to February 28/29), because of the likelihood that turtle adults and juveniles could be present in upland habitats. If ground-disturbing construction activities will occur during the period of October 1 to February 28/29, a survey by a qualified Biologist of</p>	

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>overwintering locations in any upland habitats that would be disturbed as a result of the project shall be conducted no more than 7 days prior to ground disturbance of any upland habitats. If this species is found overwintering within the disturbance area, den locations shall be avoided until the area is unoccupied, as determined by the qualified Biologist.</p> <p>B. No more than 7 days prior to the first ground-disturbing activities, the applicant shall retain a qualified Wildlife Biologist to conduct a focused survey for western pond turtle to determine presence or absence of this species within a 100-foot radius of the disturbance area. If construction occurs between April 1 and September 30, this survey shall include turtle nests. If a nest is found within a 100-foot radius of the project site, construction shall not take place within 100 feet of the nest until the turtles have hatched or the eggs have been moved to an appropriate location under consultation with a qualified Biologist in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the California Department of Fish and Wildlife (CDFW) as may be applicable to the project under the California Endangered Species Act (CESA).</p> <p>C. Before any ground-disturbing activities begin on the project, the applicant shall retain an approved Biologist to conduct a worker’s environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the western pond turtle and its habitat, and the specific measures that are being implemented to conserve western pond turtle for the project. Brochures, books, and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions.</p> <p>D. The applicant shall revegetate any impacted riparian areas utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the CDFW and project applicant determine that it is not feasible or practical.</p> <p>E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using</p>	

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>approved fencing in order to minimize project-related disturbance to potential western pond turtle habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.</p> <p>MM BIO-1f: Pallid Bat Protection</p> <p>A. In order to avoid potential impacts to roosting special-status bats, the applicant shall retain a certified Biologist to survey trees and the remnants of buildings to be disturbed by project operations. The surveys shall be conducted 15 days prior to commencing with any demolition or removal. If no special-status bats are found during the surveys, then no further action is needed. No less than 7 days and no more than 15 days prior to the start of ground disturbing activities, a qualified Biologist will survey trees in the project site for evidence of bat roosts.</p> <p>B. If special-status bats species are found during the above-referenced survey(s), the applicant shall retain a qualified Biologist to make a determination regarding whether there are young bats present. If young are found roosting in any tree, removal of the tree shall be avoided until the young have reached independence. A non-disturbance buffer along with fencing shall also be established around the maternity site. The size of the buffer zone shall be determined by a qualified Bat Biologist at the time of the surveys. If adults are found roosting in a tree on the project site but no maternal sites are found, then the adult bats can be flushed or a one-way eviction door may be placed over the tree cavity prior to the time the tree would be removed or disturbed.</p> <p>MM BIO-1g: Migratory and Nesting Birds Protection</p> <p>A. Implementation of the following avoidance and minimization measures would avoid or minimize potential effects to migratory birds and habitat in and adjacent to the project site. These measures shall be implemented by the applicant for construction work performed during the nesting season (February 1 through August 31):</p> <ul style="list-style-type: none"> • If construction or tree removal is proposed during the breeding/nesting season for migratory birds (typically February 1 through August 31), the applicant shall retain a qualified Biologist to 	

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>conduct pre-construction surveys for raptors and other migratory birds within the construction area, including a 300-foot survey buffer, no more than 3 days prior to the start of ground disturbing activities in the construction area.</p> <ul style="list-style-type: none"> • If an active nest is located during pre-construction surveys, the applicant shall notify the United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Wildlife (CDFW) (as appropriate) regarding the status of the nest. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or a qualified Biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 300 feet around an active raptor nest and 50-foot radius around an active migratory bird nest) or alteration of the construction schedule. • The applicant shall retain a qualified Biologist to delineate the buffer using nest buffer signs, Environmentally Sensitive Area (ESA) fencing, pin flags, and or flagging tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently. 	
<p>Impact BIO-2: The proposed project may have adverse impacts on sensitive natural communities or riparian habitat.</p>	<p>MM BIO-2a: If potential jurisdictional waters cannot be avoided:</p> <ul style="list-style-type: none"> • The applicant shall adhere to any and all permitting requirements under applicable laws and regulations with respect to a Section 404 Clean Water Act (CWA) permit for impacts to waters of the United States as well as a Section 401 permit from the Regional Water Quality Control Board (RWQCB). If and to the extent these permits are required under applicable laws and regulations, then the applicant shall obtain said permits prior to issuance of grading permits and implementation of the project. • The applicant shall ensure that the project will result in no net loss of waters of the United States by providing mitigation through impact avoidance, impact minimization, and/or compensatory mitigation for the impact, as determined in the CWA Section 404/401 permits and in accordance with applicable laws and regulations. 	<p>Less than significant impact.</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<ul style="list-style-type: none"> Evidence of compliance with this mitigation measure shall be provided to the City prior to issuance of grading permits for the project. <p>MM BIO-2b: If potential jurisdictional waters can be avoided:</p> <p>A. The applicant shall adhere to any and all permitting requirements under applicable laws and regulations with respect to a Section 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) for impacts to riparian habitat and follow the conditions and requirements of the permit to compensate for the removal of riparian habitat.</p>	
Impact BIO-3: The proposed project would not have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Implement MM BIO-2a through MM BIO-2b.	Less than significant impact.
Impact BIO-4: The proposed project would have substantial adverse impacts on fish or wildlife movement.	Implement MM BIO-1a through MM BIO-1g.	Less than significant impact.
Impact BIO-5: The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant cumulative impact.
Section 3.4—Cultural Resources		
Impact CUL-1: Subsurface construction activities associated with the proposed project may damage or destroy previously undiscovered historic resources.	MM CUL-1: Due to the highly sensitive archaeological nature of the project site, the applicant shall prepare a Cultural Resources Management Plan that will detail how archaeological and Tribal Cultural Resources (TCRs) within the project disturbance area will be avoided or treated. The Cultural Resources Management Plan shall be approved by the City of Santa Rosa in coordination with any tribe participating in active consultation prior to issuance of grading or building permits, and shall: (i) be prepared by an archaeologist who meets the Secretary of Interior’s qualification standards for archaeology; (ii) shall be	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>adhered to during all phases of project construction; and (iii) shall be submitted to the City of Santa Rosa Planning Department and State Historic Preservation Office and any tribe participating in active consultation, as required.</p> <p>The Cultural Resources Management Plan shall include:</p> <ol style="list-style-type: none"> 1. A detailed avoidance and protection plan for any resources that are eligible or potentially eligible for the California Register of Historical Resources. 2. Documentation of Coordination with Native Americans, as may be required under applicable laws and regulations, including an agreement with the any tribe participating in active consultation for the treatment and dispensation of all Tribal Cultural Resources. 3. An archaeological monitoring plan stipulating that all project-related ground disturbance shall be monitored by a qualified archaeologist and tribal representative from any tribe participating in active consultation. The plan shall also state that in the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers shall avoid altering the materials until the project archaeologist has evaluated the situation. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. 4. The monitoring plan should state that any resources encountered during construction activities shall be evaluated for significance in terms of CEQA criteria by a qualified archaeologist and in consultation with any tribe participating in active consultation . The treatment and disposition of TCR's shall be managed in accordance with the tribe and cultural resources management plan. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant in accordance with Section 15064.5 of the CEQA Guidelines. The archaeologist shall 	

Impacts	Mitigation Measures	Level of Significance After Mitigation
	also perform appropriate technical analyses, prepare a comprehensive report complete with methods, results, and recommendations, with an emphasis on avoidance and preservation in place wherever possible. The report shall be submitted to the City of Santa Rosa, the Northwest Information Center, and the State Historic Preservation Office, as required.	
Impact CUL-2: Subsurface construction activities associated with the proposed project may damage or destroy previously undiscovered archaeological resources.	MM CUL-2: Pursuant to the Cultural Resources Management Plan required by MM CUL-1, all known archaeological sites shall be avoided or preserved in place during project construction. Avoidance or preservation in place is preferable mitigation under CEQA, and may include modification to project plans or site “capping” with a clean layer of fill as appropriate to preserve the sites. If it is determined that a project element requiring ground disturbance cannot feasibly be located at least 50 feet from the mapped boundaries of a known archaeological site, then subsurface testing (Phase II evaluation) will be required prior to construction to determine the presence or absence of cultural materials within those areas. Any required testing shall be conducted in accordance with the Cultural Resource Management Plan, shall be carried out by a qualified archaeologist, and shall be conducted in consultation with any tribe participating in active consultation. Because subsurface testing is potentially destructive, it shall be conducted only when necessary and in moderation.	Less than significant impact.
Impact CUL-3: Subsurface construction activities associated with the proposed project may damage or destroy previously undiscovered human burial sites.	MM CUL-3: In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Sections 5097.94 and Section 5097.98 must be followed. If during the course of project development there is accidental discovery or recognition of any human remains, the following steps shall be taken: 1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the most likely descendant (MLD) of	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Public Resources Section 5097.98.</p> <p>2. Where the following conditions occur, the landowner or his or her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the Project site in a location not subject to further subsurface disturbance:</p> <ul style="list-style-type: none"> • The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission. • The descendant identified fails to make a recommendation. • The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner. 	
<p>Impact CUL-4: The proposed project could cause a substantial adverse change in the significance of a Tribal Cultural Resource (TCR), defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).</p>	Implement MM CUL-1, MM CUL-2, and MM CUL-3.	Less than significant impact.
<p>Impact CUL-5: The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with</p>	Implement MM CUL-1, MM CUL-2, and MM CUL-3.	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.		
Cumulative Impact	Implement MM CUL-1, MM CUL-2, and MM CUL-3.	Less than significant cumulative impact.
Section 3.5—Geology and Soils		
Impact GEO-1: The proposed project would not directly or indirectly 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. ii) Strong seismic ground shaking. iii) Seismic-related ground failure, including liquefaction. iv) Landslides.	No mitigation is necessary.	Less than significant impact.
Impact GEO-2: The proposed project would not result in substantial soil erosion or the loss of topsoil.	No mitigation is necessary.	Less than significant impact.
Impact GEO-3: The proposed project may be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the proposed project, and potentially result in on- or off site landslide, latera spreading, subsidence, liquefaction or collapse.	MM GEO-1: Prior to the issuance of building permits for each structure, the applicant shall submit a design-level geotechnical investigation to the City of Santa Rosa for review and approval. The investigation shall be prepared by a qualified engineer and identify grading and building practices necessary to achieve compliance with the latest adopted edition of the California Building Standards Code geologic, soils, and seismic requirements. The measures identified in the approved report shall be incorporated into the project design plans.	Less than significant impact.
Impact GEO-4: The proposed project may be located on expansive soil, per criteria in 2016 California Building Standards Code Section 1803.5.3, creating substantial risks to life or property.	Implement Mitigation Measure GEO-1.	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact GEO-5: The proposed project may directly or indirectly destroy a previously unknown unique paleontological resource or site or unique geologic feature.	MM GEO-2: A professional Paleontologist shall be present during the initial phase of ground disturbance to check for the inadvertent exposure of fossils or other resources of paleontological value. This may be followed by regular periodic or “spot-check” paleontological monitoring during ground disturbance as needed, but full-time monitoring is not required at this time. In the event that fossils or fossil-bearing deposits are discovered during construction activities, excavations within a 100-foot radius of the find shall be temporarily halted or diverted. The applicant’s construction contractor shall notify a qualified Paleontologist to examine the discovery. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The Paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The Paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the applicant determines that avoidance is not feasible, the Paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The plan shall be submitted to the City of Santa Rosa for review and approval prior to implementation, and the applicant shall adhere to the recommendations in the plan.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant cumulative impact.
Section 3.6—Greenhouse Gas Emissions and Energy		
Impact GHG-1: Implementation of the proposed project would generate direct and indirect greenhouse gas emissions that could result in a significant impact on the environment.	MM GHG-1: Achieve carbon neutral electricity use equivalence The applicant shall ensure that the project’s estimated GHG emissions are reduced by 426 MT CO2e per year through the applicant committing to on-site generation, the purchase of carbon-free electricity from the utility provider, and/or any combination thereof such that the foregoing performance standard is achieved. The manner in which the foregoing performance standard is achieved shall be within the applicant’s discretion, subject to City’s reasonable review and confirmation of same. In the event that on-site electricity generation is pursued for the project, the purchase of	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>renewable electricity from the utility provider shall be required for any remaining demand.</p> <p>If the applicant decides to utilize the purchase of carbon-free electricity from the utility provider to satisfy all or a portion of this requirement, the applicant shall provide reasonable documentation to the City that the relevant agreement(s) with the utility provider have been executed that require the project to purchase sufficient renewable electricity service to ensure that the applicable performance standard is achieved on an annual basis. The foregoing agreement(s) shall be of sufficient length to ensure that the performance standard is achieved.</p> <p>MM GHG-2: Implement feasible mitigation measures to reduce GHG emissions to a less-than-significant level</p> <p>Prior to the issuance of the certificate of occupancy, the applicant shall provide documentation to the City of Santa Rosa that the project will achieve additional annual GHG emission reductions equivalent to 815 MT CO₂e per year starting in 2030, based on current estimates of the project-related GHG emissions, through the following measure or other measures approved by the City:</p> <ul style="list-style-type: none"> • Purchase voluntary carbon credits from a verified GHG emissions credit broker in an amount sufficient to offset operational GHG emissions of approximately 815 MT CO₂e per year over the lifetime of the project starting in the 2030 operational year (or a reduced amount based on implementation of the other measure listed above). Based on a buildout year 2023 and a 30-year project life, the project would be required to purchase a total of 18,745 MT CO₂e over the lifetime of the project if no other measures are implemented to reduce GHG emissions. Copies of the contract(s) shall be provided to the City. 	

Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact GHG-2: Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.	Implement MM GHG-1, GHG-2, AIR-2, and GHG-3 as shown below. MM GHG-3: High Solar Reflectivity Materials The project applicant shall prepare updated site plans which clearly illustrate the use of high solar reflectivity materials for new sidewalks and pavement included in the project. The updated site plans shall be provided to the City prior to the issuance of the first building permit and shall illustrate the use of high solar reflectivity materials in proposed sidewalks and pavement to an extent which is satisfactory to the City.	Less than significant impact.
Impact GHG-3: The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	No mitigation is necessary.	Less than significant impact.
Impact GHG-4: The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	Greenhouse Gas Emissions MM GHG-1: Achieve carbon neutral electricity use equivalence The project shall ensure that the project's estimated GHG emissions are reduced by 426 MT CO ₂ e per year through the applicant committing to on-site generation, the purchase of carbon-free electricity from the utility provider, and/or any combination thereof such that the foregoing performance standard is achieved. The manner in which the foregoing performance standard is achieved shall be within the applicant's discretion, subject to City's reasonable review and confirmation of same. In the event that on-site electricity generation is pursued for the project, the purchase of renewable electricity from the utility provider shall be required for any remaining demand. If the applicant decides to utilize the purchase of carbon-free electricity from the utility provider to satisfy all or a portion of this requirement, the applicant shall provide reasonable documentation to the City that the relevant agreement(s) with the utility provider have been executed that require the project to purchase sufficient renewable electricity service to ensure that the applicable performance standard is achieved on an annual	Greenhouse Gas Emissions Less than significant cumulative impact. Energy Less than significant cumulative impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>basis. The foregoing agreement(s) shall be of sufficient length to ensure that the performance standard is achieved.</p> <p>MM GHG-2: Implement feasible mitigation measures to reduce GHG emissions to a less-than-significant level</p> <p>Prior to the issuance of the certificate of occupancy, the applicant shall provide documentation to the City of Santa Rosa that the project will achieve additional annual GHG emission reductions equivalent to 815 MT CO₂e per year starting in 2030, based on current estimates of the project-related GHG emissions, through the following measure or other measures approved by the City:</p> <ul style="list-style-type: none"> • Purchase voluntary carbon credits from a verified GHG emissions credit broker in an amount sufficient to offset operational GHG emissions of approximately 815 MT CO₂e per year over the lifetime of the project starting in the 2030 operational year (or a reduced amount based on implementation of the other measure listed above). Based on a buildout year 2023 and a 30-year project life, the project would be required to purchase a total of 18,745 MT CO₂e over the lifetime of the project if no other measures are implemented to reduce GHG emissions. Copies of the contract(s) shall be provided to the City. <p>MM GHG-3: High Solar Reflectivity Materials</p> <p>The project applicant shall prepare updated site plans which clearly illustrate the use of high solar reflectivity materials for new sidewalks and pavement included in the project. The updated site plans shall be provided to the City prior to the issuance of grading or building permits and shall illustrate the use of high solar reflectivity materials in proposed sidewalks and pavement to an extent which is satisfactory to the City.</p> <p>Energy</p> <p>No cumulative mitigation is necessary.</p>	
Section 3.7—Hazards and Hazardous Materials		
Impact HAZ-1: The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	MM HAZ-1a: Prior to issuance of site grading permits, the applicant shall conduct soil sampling and testing in the vicinity of the previously discovered 55-gallon drums in order to determine if hazardous chemicals above action levels are present. If, as a result of the sampling/testing, hazardous	Less than significant impact with mitigation incorporated.

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>substances in soils are detected above action levels, the applicant shall, prior to issuance of site grading permit, conduct associated remediation in accordance with applicable standards and requirements of the Santa Rosa Fire Department (SRFD) as designated by the Certified Unified Program Agency (CUPA), prior to grading in any affected areas.</p> <p>MM HAZ-1b: Prior to issuance of grading permits, the applicant shall conduct soil sampling and testing in the vicinity of the discovered railroad land uses in order to determine if hazardous chemicals above action levels are present. If determined necessary, associated remediation shall be conducted in accordance with applicable standards and requirements of the Santa Rosa Fire Department (SRFD) as designated by the Certified Unified Program Agency (CUPA).</p> <p>MM HAZ-1c: Prior to the issuance of grading permits for the northern portion of the site, the applicant shall conduct soil sampling and testing for residual pesticides in on-site soils to determine whether contaminated soils above action levels are present due to historic agricultural uses on the site. If as a result of the sampling/testing pesticides or insecticides are detected above action levels, the applicant shall conduct remediation in the affected area(s) in accordance with applicable standards and requirements of the Santa Rosa Fire Department (SRFD) as designated by the Certified Unified Program Agency (CUPA).</p>	
Impact HAZ-2: The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.	No mitigation is necessary.	Less than significant impact.
Impact HAZ-3: The proposed project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.	No mitigation is necessary.	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact HAZ-4: The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	No mitigation is necessary.	Less than significant impact.
Impact HAZ-5: The proposed project could expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant cumulative impact.
Section 3.8—Hydrology and Water Quality		
Impact HYD-1: The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	No mitigation is necessary.	Less than significant impact.
Impact HYD-2: The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	No mitigation is necessary.	Less than significant impact.
Impact HYD-3: The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows?	Implement MM BIO-2a and MM BIO-2b.	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact HYD-4: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant cumulative impact.
Section 3.9—Land Use and Planning		
Impact LAND-1: The proposed project would not physically divide an established community.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No mitigation is necessary.	Less than significant impact.
Impact LAND-2: The proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	No mitigation is necessary.	Less than significant impact.
Section 3.10—Noise		
Impact NOI-1: The proposed project could result in a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	MM NOI-1: To meet the City’s interior noise level standard of 45 dBA L _{dn} , the proposed multi-family residential units located within 200 feet of the centerline of Sonoma Highway shall be supplied with a mechanical ventilation system to allow the windows to remain closed (as the interior noise standard would not be met with open windows).	Less than significant impact.
Impact NOI-2: The proposed project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	MM NOI-2: To reduce potential construction noise impacts, the following multi-part mitigation measure shall be implemented for the project: <ul style="list-style-type: none"> • 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. • The construction contractor shall locate stationary noise-generating equipment as far as is feasible 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 to the extent feasible. 	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<ul style="list-style-type: none"> The construction contractor shall prohibit unnecessary idling of internal combustion engines. 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. The construction contractor shall limit noise producing construction activity, including deliveries and equipment idling, to the daytime hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction is permitted on Sundays and holidays. 	
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant cumulative impact.
Section 3.11—Population and Housing		
Impact POP-1: The proposed project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	No mitigation is necessary.	Less than significant impact.
Impact POP-2: The proposed project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing elsewhere.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary	Less than significant cumulative impact.
Section 3.12—Public Services		
Impact PUB-1: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection.	<p>MM PUB-1: Prior to issuance of a grading permit, the applicant shall complete annexation of all newly created parcels and multi-family residential development into the City’s existing Special Tax District Number 2006-1.</p> <p>MM PUB-2: Prior to issuance of occupancy permits, the applicant shall install automatic external defibrillators within the proposed development and submit and receive an approved MEDF Program form. In addition, the</p>	Less than significant impact with mitigation incorporated.

Impacts	Mitigation Measures	Level of Significance After Mitigation
	applicant shall require that lift team training be provided to all employees working on-site as part of their first-week employment orientation.	
Impact PUB-2: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.	No mitigation is necessary.	Less than significant impact.
Impact PUB-3: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools.	No mitigation is necessary.	Less than significant impact.
Impact PUB-4: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for other public facilities.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant cumulative impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
Section 3.13—Recreation		
Impact REC-1: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.	No mitigation is necessary.	Less than significant impact.
Impact REC-2: The proposed project would not include park or recreational facilities or require the construction, physical alteration, or expansion of recreational facilities, which might have an adverse physical effect on the environment, in order to maintain acceptable service ratios.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant cumulative impact.
Section 3.14—Transportation		
Impact TRANS-1: The proposed project would not result in a substantial increase in vehicle miles traveled.	No mitigation is necessary.	Less than significant impact.
Impact TRANS-2: The proposed project could substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	MM TRANS-2a: Prior to issuance of the first grading permit, the project applicant shall provide a construction traffic control plan to the City for review and approval. A construction traffic control plan shall be prepared for all aspects of project construction, including physical improvements on the site itself, as well as any off-site traffic improvements required to be completed directly by the project applicant. The construction traffic control plan shall describe in detail the location of equipment staging areas, stockpiling/storage areas, construction worker and equipment parking areas, roadways that would be potentially affected, safe detours around the site and/or roadway construction site, as well as provide temporary traffic control (e.g., flag person) and appropriate signage during construction-related truck hauling activities. The traffic control plan shall ensure adequate and uninterrupted access to all nearby residences throughout the construction period.	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>MM TRANS-2b: Prior to recordation of the final map, the project applicant shall dedicate sufficient right-of-way to Caltrans or the City of Santa Rosa for the planned widening of Sonoma Highway.</p> <p>MM TRANS-2c: Prior to approval of the final improvements plans, the project applicant shall prepare and submit plans to the City of Santa Rosa for review and approval showing that landscaping or signage at the project driveways do not exceed three feet in height to maximize sight lines.</p> <p>MM TRANS-2d: Prior to issuance of the certificate of occupancy, the project applicant shall install traffic calming elements as directed by the City along Melita Drive between Sonoma Highway and Los Alamos Drive.</p>	
Impact TRANS-3: The proposed project would not result in inadequate emergency access.	No mitigation is necessary.	Less than significant impact.
Impact TRANS-4: The proposed project may conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	<p>MM TRANS-4a: The project applicant shall construct, as part of the project, a segment of the Sonoma Valley Trail along the project's Sonoma Highway frontage, consistent with the dimensions and standards set forth by Sonoma County Regional Parks in the Sonoma Valley Trail Feasibility Study.</p> <p>MM TRANS-4b: The project applicant shall relocate the existing westbound bus stop near the project site to be adjacent to the new traffic signal required by IM-1, and shall configure both the eastbound and westbound bus stops in accordance with criteria established by Sonoma County Transit.</p>	Less than significant impact.
Section 3.15—Utilities and Service Systems		
Impact UTIL-1: The proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects.	No mitigation is necessary.	Less than significant impact.
Impact UTIL-2: The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	No mitigation is necessary.	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact UTIL-3: The proposed project would not result in a determination by the wastewater treatment provider, which serves or may serve the project, that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	No mitigation is necessary.	Less than significant impact.
Impact UTIL-4: The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	No mitigation is necessary.	Less than significant impact.
Impact UTIL-5: The proposed project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant impact.
Section 3.16—Wildfire		
Impact WILD-1: The proposed project could substantially impair an adopted emergency response plan or emergency evacuation plan.	MM WILD-1: Construction of the Elnoka CCRC project is planned in multiple phases. Prior to building permit issuance at each phase, an updated evacuation plan and map shall be prepared and submitted for review by Traffic Engineering and the Fire Department. The map should include an open and accessible street network that provides access to both Sonoma Highway and Montgomery Drive. Once City staff have completed their respective reviews, an updated plan shall be distributed to every existing Elnoka CCRC residence as well as to new occupants when keys are provided.	Less than significant impact.
Impact WILD-2: The proposed project would not exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	No mitigation is necessary.	Less than significant impact.
Impact WILD-3: The proposed project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may	No mitigation is necessary.	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.		
Impact WILD-4: The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	No mitigation is necessary.	Less than significant impact.
Cumulative Impact	No cumulative mitigation is necessary.	Less than significant impact.

CHAPTER 1: INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) for the Elnoka Continuing Care Retirement Community Project (project) has been prepared in accordance with—and complies with—applicable criteria, standards, and procedures of the California Environmental Quality Act (CEQA), as amended (California Public Resources Code [PRC], § 21000, *et seq.*) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, § 15000, *et seq.*). In accordance with Sections 21067, 15367, and 15050–15053 of the CEQA Guidelines, the City of Santa Rosa is the lead agency under whose authority this document has been prepared. As an informational document, this Draft EIR is intended for use by the City and other public agency decision makers and members of the public in evaluating the potential environmental impacts of the project.

1.1 - Project Overview

The project consists of the development of up to 676 housing units as part of a continuing care retirement community on an approximately 68.73-acre site. The proposed land use type constitutes a Community Care Facility as defined by the Santa Rosa City Code Chapter 20-70. The site is largely undeveloped and contains the remains of three single-family homes that were destroyed in the October 2020 Glass Fire. The site also contains supporting infrastructure such as private roads and utilities. The private roads lead to Brand Road and Susan Road, which provide access to Sonoma Highway and Melita Road. The majority of the site consists of non-native grassland with small areas of valley oak woodland and riparian habitat. Across the north/northeast portion of the site, rough grading and utility work is evident on the site from construction activities associated with an earlier development project in the mid-1990s. However, the earlier project and earthwork were never completed.

The remains of the former single-family homes would be demolished and the existing private roadways would either be demolished or improved and incorporated into the proposed internal circulation system. It is anticipated that the project would develop the site in approximately five phases. Phase 1 is anticipated to begin in June 2021 and includes the development of backbone infrastructure and 214 of the proposed 676 community care units. The remaining 462 community care units and related infrastructure and improvements are anticipated to be built over four additional phases from 2023 to 2028, based on market conditions and other considerations. Chapter 2, Project Description, provides a complete description of the project.

1.2 - Environmental Review Process

An EIR is an informational document used by a lead agency (in this case, the City) when considering approval of a project. The purpose of an EIR is to provide public agencies, members of the public and other interested persons and organizations with detailed information regarding the environmental effects associated with implementing a project. An EIR should analyze the environmental consequences of a project, identify ways to feasibly reduce or avoid the project's potential environmental effects, and identify alternatives to the project that can avoid or reduce impacts while still achieving most of the project objectives. Pursuant to CEQA, State, and local government agencies must consider the environmental consequences of projects over which they have discretionary authority. This Draft EIR

provides information to be used in the planning and decision-making process. It is not the purpose of an EIR to recommend approval or denial of a project.

Before approval of the project, the City, as lead agency and the decision-making entity, is required to certify that this Draft EIR has been completed in compliance with CEQA, that the information in the EIR has been considered, and that the EIR reflects the independent judgment of the City. Pursuant to CEQA, decision makers must balance the benefits of a project against its unavoidable environmental consequences. If environmental impacts are identified as significant and unavoidable, the City may still approve the project if it finds that social, economic, or other benefits outweigh the unavoidable impacts. The City would then be required to state in writing the specific reasons for approving the project, based on information in the EIR and other information sources in the administrative record. This reasoning is called a “statement of overriding considerations” (PRC § 21081; CEQA Guidelines § 15093).

In addition, the City as lead agency must adopt a Mitigation Monitoring and Reporting Program (MMRP) describing the measures that were made a condition of project approval to avoid or mitigate significant effects on the environment (PRC § 21081.6; CEQA Guidelines § 15097). The MMRP is adopted at the time of project approval and is designed to ensure compliance with the project description and EIR mitigation measures during and after project implementation. If the City decides to approve the project, it would be responsible for verifying that the MMRP for this project is implemented. The EIR will be used by the City as well as any other public agencies having jurisdiction over aspects of the project during approval of any future discretionary actions and permits.

This Draft EIR provides a project-level analysis of the environmental effects of the Elnoka Continuing Care Retirement Community (CCRC) project. The environmental impacts of the project are analyzed in the EIR to the degree of specificity appropriate, in accordance with CEQA Guidelines Section 15146. This document addresses the potentially significant adverse environmental impacts that may be associated with the planning, construction, or operation of the project. 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 components. These components are contained in this Draft EIR and include:

- Table of Contents
- Introduction
- Executive Summary
- Project Description
- Environmental Setting
- Significant Environmental Impacts
- 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

The City of Santa Rosa is 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 Draft EIR was prepared by FirstCarbon Solutions (FCS), an environmental consultant retained by the City. Prior to public review, it was extensively reviewed and evaluated by the City of Santa Rosa. This Draft EIR reflects the independent judgment and analysis of the City of Santa Rosa as required by CEQA. Lists of organizations and persons consulted and the report preparation personnel is provided in Section 7 of this Draft EIR.

1.3 - Purpose and Legal Authority

1.3.1 - Notice of Preparation and Public Scoping Process

In accordance with Sections 15063 and 15082 of the CEQA Guidelines, the City of Santa Rosa, as lead agency, sent a Notice of Preparation (NOP) to responsible and trustee agencies and interested entities and individuals on July 12, 2017, thus beginning the formal CEQA scoping process. The purpose of the scoping process is to allow the public, other government agencies and other interested parties and organizations to provide input on the scope of the EIR. The NOP mailing list included approximately 270 federal, State, and local agencies, regional and local interest groups, and property owners within 1,000 feet of the project site. The scoping period began on July 12, 2017, and ended on August 11, 2017, representing the statutory 30-day public review period. The NOP is contained in attached Appendix A.

Pursuant to Section 15083 of the CEQA Guidelines, the City of Santa Rosa held a public scoping meeting on July 27, 2017, starting at 7:00 p.m., at 6633 Oakmont Drive, Santa Rosa, CA 95404. Attendees were given an opportunity to provide comments and express concerns about the potential effects of the project. Approximately 25 individuals provided verbal comments on the content of the EIR at the scoping meeting.

Environmental concerns were raised in comment letters and during the scoping period. Appendix A contains copies of written comment letters and EIR public meeting scoping verbal comments referenced below. Thirty-seven comment letters were received in response to the NOP. Comments are listed in Table 1-1, with cross-references to applicable EIR sections where comments are addressed.

Table 1-1: Summary of EIR Scoping Comments

Agency/Organization	Author	Date	Comment Summary	Coverage in the Draft EIR
Public Agencies				
California Department of Transportation (Caltrans)	Patricia Maurice—District Branch Chief, Local Development—Intergovernmental Review	08/09/2017	The EIR should study cultural resources and traffic impacts. The cultural analysis should consider archaeological resources and include tribal consultation.	<ul style="list-style-type: none"> Section 3.4, Cultural Resources Section 3.14, Transportation and Traffic

Agency/Organization	Author	Date	Comment Summary	Coverage in the Draft EIR
			The traffic analysis should consider multi-modal planning and measures to reduce VMT including impact fees and a TDM [Transportation Demand Management] program. The City should consider roadway access and operations to minimize potential conflicts with motorists entering and exiting SR-12. The City should coordinate any improvements to SR-12 with Caltrans and an encroachment permit is needed for the proposed gated-driveway.	
California Department of Fish and Wildlife (CDFW)	Karen Weiss—North Bay Supervisor, Bay Delta Region	08/09/2017	The EIR should consider impacts to creeks present on-site and coordinate with the CDFW for any required agency agreements or permits.	<ul style="list-style-type: none"> • Section 3.3, Biological Resources • Section 3.8, Hydrology and Water Resources
California Department of Parks and Recreation	Laura Wilson—Senior Park and Recreation Specialist, Bay Area District	08/11/2017	The EIR should analyze potential impacts to cultural resources, wildlife, and recreational resources within Trione-Annadel State Park. The City should consider a full range of project alternatives that minimize potential impacts on the park and avoid or mitigate impacts. Commenter encourages City to reconsider project components and configuration to protect park resources including: aesthetics, archaeological resources, biological resources, greenhouse gas emissions, fire hazards, stormwater, land use, parks and recreation, noise, and	<ul style="list-style-type: none"> • Section 3.1, Aesthetics • Section 3.2, Air Quality • Section 3.3, Biological Resources • Section 3.4, Cultural Resources and Tribal Cultural Resources • Section 3.6, Greenhouse Gas Emissions and Energy • Section 3.7, Hazards and Hazardous Materials • Section 3.8, Hydrology and Water Quality • Section 3.9, Land Use and Planning • Section 3.10, Noise • Section 3.12, Public Services • Section 3.14, Transportation

Agency/Organization	Author	Date	Comment Summary	Coverage in the Draft EIR
			traffic as well as related cumulative and growth-inducing impacts.	
Organizations				
VOTMA	Valley of the Moon Alliance	08/10/2017	The EIR should study on-site parking demands and transit options to reduce traffic congestion along the SR-12 corridor. The City should evaluate impacts to water resources and consider lighting impacts on the state park. The EIR should also analyze cumulative impacts of nearby care facilities on noise, emergency access, and added traffic congestion along the SR-12 corridor.	<ul style="list-style-type: none"> • Section 3.1, Aesthetics • Section 3.10, Noise • Section 3.8, Hydrology and Water Quality • Section 3.9, Land Use and Planning • Section 3.14, Transportation
Other				
Individuals	Tom Arens	08/10/2017	The EIR should consider traffic congestion and roadway safety. The City should incorporate speed bumps along Melita Road and Montgomery Drive to discourage traffic from diverting off SR-12 into neighborhoods.	<ul style="list-style-type: none"> • Section 3.14, Transportation
	George and Sue Bisbee	07/27/2017	The EIR should analyze vehicle speed on Melita Road and the project should incorporate features to reduce vehicle speed and address safety issues. The City should incorporate speed bumps to discourage traffic bypass.	<ul style="list-style-type: none"> • Section 3.14, Transportation
	Sue Bisbee	08/10/2017	Vehicle speed is a safety issue along Melita Road. Commenter asserts need for dedicated right-turn lane at Melita Road and SR-12 intersection. The	<ul style="list-style-type: none"> • Section 3.14, Transportation

Agency/Organization	Author	Date	Comment Summary	Coverage in the Draft EIR
			City should also require adequate signage. The City should incorporate speed bumps to discourage traffic bypass.	
	Susan Boden	08/11/2017	The DEIR should analyze traffic congestion and vehicle speed on Melita Road to address existing safety issues through speed bumps and signage. The City should also avoid impacts to local designated scenic roadway.	<ul style="list-style-type: none"> • Section 3.1, Aesthetics • Section 3.14, Transportation
	David Dearden	07/27/2017	The EIR should include specific project component details for proposed Building P and Building N.	<ul style="list-style-type: none"> • Chapter 2, Project Description
	Rob Edgar	07/27/2017	Provide City contact for project-related information and directing future inquiries.	<ul style="list-style-type: none"> • Chapter 1, Introduction
	Stephanie Edgar	07/27/2017	The EIR should analyze potential health impacts attributed to increased concentrations of air pollutant emissions from traffic along SR-12 and Melita Road.	<ul style="list-style-type: none"> • Section 3.2, Air Quality
	Cathy Fletcher	07/27/2017	The City should prohibit Segway and bike rentals on pedestrian paths and trails. The commenter is also concerned with flooding, impacts to vernal pools, and the use of down lighting.	<ul style="list-style-type: none"> • Section 3.1, Aesthetics • Section 3.3, Biological Resources • Section 3.13, Recreation and Parks • Section 3.14, Transportation
	Caryn Fried	08/03/2017	The commenter is concerned that proposed signalization of SR-12 may create traffic congestion.	<ul style="list-style-type: none"> • Section 3.14, Transportation

Agency/Organization	Author	Date	Comment Summary	Coverage in the Draft EIR
	Rob and Kerry Granshaw	08/10/2017	Commenters are concerned that project would have adverse effect on local scenic roads and project-related traffic may create safety concerns.	<ul style="list-style-type: none"> • Section 3.1, Aesthetics • Section 3.14, Transportation
	Linda Kay Hale	07/25/2017	The commenter is concerned with project-related impacts to traffic circulation, water resources, and generally the local environment. The City should contact local community groups and organizations for a recent SR-12 corridor traffic study. The commenter also states the City may not meet its [GHG] emission commitments.	<ul style="list-style-type: none"> • Chapter 2, Project Description • Section 3.2, Air Quality • Section 3.6, Greenhouse Gas Emissions and Energy • Section 3.8, Hydrology and Water Quality • Section 3.14, Transportation
	Sandy and Michael Hudson	07/27/2017	The EIR should provide building heights and detail drainage features to reduce flooding. The EIR should also analyze noise impacts from HVAC systems.	<ul style="list-style-type: none"> • Chapter 2, Project Description • Section 3.1, Aesthetics • Section 3.8, Hydrology and Water Quality • Section 3.10, Noise
	Jay Jones	08/01/2017	Commenter concerned that site drainage may not prevent flooding and project will generate traffic congestion. Suggests the City limit traffic along Melita Road and Elnoka Road to emergency vehicles. The City should clarify fencing and its impact on local creeks and site drainage.	<ul style="list-style-type: none"> • Chapter 2, Project Description • Section 3.8, Hydrology and Water Quality • Section 3.14, Transportation
	John Martin	07/27/2017	Commenter is concerned with traffic congestion and project's impact on safety and rural setting. The City should prohibit thru traffic along SR-12 from exiting onto Melita Road.	<ul style="list-style-type: none"> • Chapter 2, Project Description • Section 3.1, Aesthetics • Section 3.9, Land Use and Planning • Section 3.14, Transportation

Agency/Organization	Author	Date	Comment Summary	Coverage in the Draft EIR
	John Martin	08/11/2017	Commenter is concerned that project size will change rural neighborhood character and result in cumulative impacts.	<ul style="list-style-type: none"> Chapter 2, Project Description Section 3.1, Aesthetics Section 3.9, Land Use and Planning
	Melita Road Individuals (12 addresses signed on)	08/07/2017	Commenter is concerned with traffic congestion and vehicle speed on Melita Road. Suggests no left turn allowed at project's SR-12 outlet. The DEIR should include analysis of traffic impacts, and city officials should incorporate traffic mitigations. Project design features do not adequately address traffic safety.	<ul style="list-style-type: none"> Section 3.14, Transportation
	Melita Road Individuals	08/09/2017	Commenter is concerned with traffic congestion and vehicle speed on Melita Road. The City should not allow left turns at project's SR-12 outlet. The EIR should include analysis of traffic impacts, and city officials should incorporate traffic mitigations. Project design features do not adequately address traffic safety.	<ul style="list-style-type: none"> Chapter 2, Project Description Section 3.14, Transportation
	Liz Meyer	07/27/2017	Commenter suggests the City limit emergency vehicles along Melita Road to access SR-12.	<ul style="list-style-type: none"> Section 3.7, Hazards and Hazardous Materials Section 3.14, Transportation
	Helen Morneau and Bob Landman	08/10/2017	Commenter is concerned that project would change the rural character of the neighborhood. Traffic congestion on Melita Road would impact bridge at Melita Road/Los Alamos.	<ul style="list-style-type: none"> Section 3.1, Aesthetics Section 3.14, Transportation
	Mary Nashawaty	08/10/2017	Commenter opposes the project and the City has	<ul style="list-style-type: none"> Section 3.14, Transportation

Agency/Organization	Author	Date	Comment Summary	Coverage in the Draft EIR
			not considered traffic and project alternatives.	Chapter 5, Alternatives to the Proposed Project
	Joseph Pandolfo	08/04/2017	The EIR should include a traffic study and mitigate delay to buses and vans.	<ul style="list-style-type: none"> Section 3.14, Transportation
	Gail Passalacqua	08/04/2017	The EIR should analyze traffic impacts and address increased risk of vehicle collision. The City should include a study on emergency services.	<ul style="list-style-type: none"> Section 3.7, Hazards and Hazardous Materials Section 3.14, Transportation
	Jean Michel Poulnot	08/07/2017	Commenter opposes the project. The City has not mitigated traffic congestion. Commenter is concerned with effects on creek and wetlands, and impacts on wildlife corridor. Project's proximity to Annadel State Park could expose people to wildfire hazards.	<ul style="list-style-type: none"> Section 3.3, Biological Resources Section 3.7, Hazards and Hazardous Materials Section 3.12, Public Services Section 3.14, Transportation
	Avinash Ramchandani	08/10/2017	Commenter is concerned with project size and traffic safety. The project should not have an entrance from Melita Road.	<ul style="list-style-type: none"> Chapter 2, Project Description Section 3.14, Transportation
	Cyndi Reece	07/18/2017	Commenter is concerned that development adjacent to a state park would impact a scenic corridor, nearby creek, wildlife, flooding, traffic congestion, and pedestrian safety on Channel Drive. Also concerned that project does not have adequate emergency access. City should clarify the location of utility easements.	<ul style="list-style-type: none"> Chapter 2, Project Description Section 3.3, Biological Resources Section 3.7, Hazards and Hazardous Materials Section 3.8, Hydrology and Water Quality Section 3.14, Transportation
	Cyndi Reece	07/27/2017	Commenter is concerned with traffic congestion and public safety. City should consider effects	<ul style="list-style-type: none"> Section 3.14, Transportation

Agency/Organization	Author	Date	Comment Summary	Coverage in the Draft EIR
			on Channel Drive and the entrance to Annadel State Park.	
	Gertrude Reynaud	08/07/2017	Commenter is concerned with traffic congestion, vehicle speed, and increased risk of vehicle collision. City should limit exit onto SR-12 as right turn only.	<ul style="list-style-type: none"> • Section 3.14, Transportation
	Marla and Bill Rochedieu	07/27/2017	Commenter supports the project.	<ul style="list-style-type: none"> • Chapter 2, Project Description
	Patricia Steele	08/11/2017	Commenter is concerned with traffic congestion and vehicle speed along Melita Road.	<ul style="list-style-type: none"> • Section 3.14, Transportation
	Vera Shlyapin	08/03/2017	Commenter is concerned with traffic congestion.	<ul style="list-style-type: none"> • Section 3.14, Transportation
	Katie Traverso	08/11/2017	Commenter is concerned with traffic congestion and local lane configurations. City should consider traffic calming measures. City should also avoid impacts to aesthetic and recreational resources.	<ul style="list-style-type: none"> • Section 3.1, Aesthetics • Section 3.13, Recreation • Section 3.14, Transportation
	Susan and Bob Walker	08/03/2017	Commenter is concerned with increased traffic. The EIR should include a traffic study on all site-specific conditions. Important for study to use actual traffic counts, not general assumptions.	<ul style="list-style-type: none"> • Section 3.14, Transportation
	Ryan Wilber	08/11/2017	Commenter is concerned with traffic congestion, vehicle speed, vehicle collisions, and public safety risks. The EIR should consider impacts to aesthetic, biological, water, utilities, and recreational resource.	<ul style="list-style-type: none"> • Section 3.1, Aesthetics • Section 3.3, Biological Resources • Section 3.8, Hydrology and Water Quality • Section 3.12, Public Services • Section 3.14, Transportation
Source: FCS 2018.				

1.3.2 - Public Review

Upon completion of the public Draft EIR, the City of Santa Rosa filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (PRC § 21161). Concurrent with the NOC, the Draft EIR was 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).

Due to the COVID-19 crisis, City facilities are currently closed to the public. Once public access to City facilities resumes, a hard copy of the Draft EIR can be viewed at the following location (please check with the facility for hours of operation):

City of Santa Rosa
100 Santa Rosa Avenue, Room 3
Santa Rosa, CA, 95404

Hours:

Monday, Tuesday, Thursday: 8:00 a.m.–4:30 p.m.
Wednesday: 10:30 a.m.–4:30 p.m.
Friday: 8:00 a.m.–12:00 p.m.

Rincon Valley Library
6959 Montecito Boulevard
Santa Rosa, CA 95409

Hours:

Tuesday, Thursday, Friday: 10:00 a.m.–6:00 p.m.
Saturday: 10:00 a.m.–4:00 p.m.

Oakmont Community Foundation Building
OVA Office
6637 Oakmont Drive, Suite A
Santa Rosa, CA 95409

Hours: Monday through Wednesday via appointment at:
<https://oakmontvillage.com/book>

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

Kristinae Toomians, Senior Planner
Planning and Economic Development
100 Santa Rosa Avenue, Room 3
Santa Rosa, CA, 95404
Phone: 707.543.4692
Fax: 707.543.3269
Email: ktoomians@srcity.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 Santa Rosa 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.

1.3.3 - Environmental Issues Determined not to be Significant

The NOP identified two topical areas that were determined not to be significant. An explanation of why each area is determined not to be significant is provided in Chapter 4, Effects Found not to be Significant. These topical areas are as follows:

- Agriculture and Forestry Resources
- Mineral Resources

Chapter 4 also includes a brief discussion and analysis of additional specific issues that were found not to be significant:

- Habitat, Natural Community, or Other Conservation Plan (Section 3.3, Biological Resources)
- Soils Adequate to Support Alternative Wastewater Disposal Systems (Section 3.4, Geology and Soils)
- Exposure of Schools to Hazardous Materials (Section 3.7, Hazards and Hazardous Materials)
- Airports (Section 3.7, Hazards and Hazardous Materials)
- Levee or Dam Failure (Section 3.8, Hydrology and Water Quality)
- Flood Hazard, Tsunamis, or Seiches (Section 3.8, Hydrology and Water Quality)
- Aviation Noise (Section 3.10, Noise)

An explanation of why each of these issues is determined not to be significant and thus not included for further evaluation in the Draft EIR is provided in Chapter 4, Effects Found not to be Significant.

1.3.4 - Potentially Significant Environmental Issues

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

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

1.4 - EIR Document Organization

This Draft EIR is organized into the following chapters and sections:

- **Chapter ES: Executive Summary.** This Chapter includes a summary of the 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 MMRP—in addition to a table that summarizes the impacts, mitigation measures, and level of significance after mitigation—are also included in this Chapter.
- **Chapter 1: Introduction.** This Chapter provides an introduction and overview describing the purpose of this Draft EIR, its scope and components, and its review and certification process.
- **Chapter 2: Project Description.** This Chapter includes a detailed description of the 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 project are also provided.
- **Chapter 3: Environmental Impact Analysis.** This Chapter analyzes the environmental impacts of the project. Impacts are organized into major topical areas. Each topical 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 Chapter 3 are as follows:
 - **Section 3.1—Aesthetics:** Addresses the potential visual impacts of development intensification and increase in illumination and glare produced by the project.
 - **Section 3.2—Air Quality:** Addresses the potential air quality impacts associated with project implementation, as well as consistency with the Bay Area Clean Air Plan (2017).
 - **Section 3.3—Biological Resources:** Addresses the project’s potential impacts on habitat, vegetation, and wildlife; the potential degradation or elimination of important habitat; and potential impacts on listed, proposed, and candidate threatened and endangered species.
 - **Section 3.4—Cultural Resources and Tribal Cultural Resources:** Addresses potential impacts on historical resources, archaeological resources, tribal cultural resources, and burial sites.
 - **Section 3.5—Geology and Soils:** Addresses the potential impacts the project may have on soils (including any paleontological resources) and assesses the effects of project-related development in relation to geologic and seismic conditions.
 - **Section 3.6—Greenhouse Gas Emissions and Energy:** Addresses the potential project emissions of greenhouse gases and use of energy.
 - **Section 3.7—Hazards, Hazardous Materials :** Addresses the potential for the presence of hazardous materials or conditions on the project site and in the project area that may have the potential to impact human health.
 - **Section 3.8—Hydrology and Water Quality:** Addresses the potential impacts of the project on local hydrological conditions, including drainage areas, and changes in the flow rates.
 - **Section 3.9—Land Use and Planning:** Addresses the potential land use impacts associated with division of an established community and consistency with the City of Santa Rosa General Plan 2035 and other relevant planning documents.
 - **Section 3.10—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 3.11—Population and Housing:** Addresses the potential impacts of the project on local housing and displacement.

- **Section 3.12—Public Services:** Addresses the potential impacts upon public services, including fire protection, law enforcement, schools, parks, recreational facilities, and library facilities.
- **Section 3.13—Recreation:** Addresses the potential impacts of the project on recreational facilities and parkland.
- **Section 3.14—Transportation:** Addresses the potential impacts of the project on the local and regional roadway system, public transportation, bicycle, and pedestrian access.
- **Section 3.15—Utilities and Services Systems:** Addresses the potential impacts of the project upon service providers, including fire protection, law enforcement, water supply, wastewater, solid waste, and energy providers.
- **Section 3.16—Wildfire:** Addresses potential impacts related to wildfire including lands within State Responsibility Areas (SRAs) and lands classified as very high fire hazard severity zones.
- **Chapter 4: Effects Found not to be Significant.** This Chapter contains analysis of the topical sections not addressed in Chapter 3.
- **Chapter 5: Alternatives to the Proposed Project.** This Chapter compares the impacts of the project with four land-use project alternatives: the No Project Alternative, the Existing General Plan Designation Alternative, the Reduced Density Alternative, and the Reconfigured Site Plan Alternative. An environmentally superior alternative is identified. In addition, alternatives initially considered but rejected from further consideration are discussed.
- **Chapter 6: Other CEQA Considerations.** This Chapter provides a summary of significant environmental impacts, including unavoidable and growth-inducing impacts. This Chapter also discusses the significant irreversible environmental changes.
- **Chapter 7: Persons and Organizations Consulted/List of Preparers.** This Chapter contains a full list of persons and organizations that were consulted during the preparation of the Draft EIR. This Chapter also contains a full list of the authors who assisted in the preparation of the Draft EIR, by name and affiliation.
- **Appendices.** The EIR appendices include notices and other procedural documents pertinent to the Draft EIR, as well as supporting technical materials. The following attached technical studies and analyses were prepared for the project in support of preparation of this Draft EIR:
 - NOP and EIR Public Scoping Comments (Appendix A).
 - Visual simulations, prepared by The Digital Realm (analysis is wholly contained in Section 3.1, Aesthetics; supporting information is provided in Appendix B).
 - Air Quality and Greenhouse Gas Emissions Analyses, prepared by FCS (analysis is wholly contained in Sections 3.2, Air Quality, and 3.6, Greenhouse Gas Emissions and Energy; supporting information provided in Appendix C).
 - Arborist Report, prepared by Becky Duckles (Appendix D).
 - Phase I Cultural Resources Assessment, prepared and assembled by FCS (Appendix E).
 - Soil Corrosivity Evaluation and Recommendations for Corrosion Control (2016) and Soil Investigation Report (2017), prepared by Reese & Associates (Appendix F).
 - Phase I Environmental Site Assessment (2017), prepared by FCS (Appendix G).
 - Noise Analysis, prepared by FCS (analysis wholly contained within Section 10, Noise; supporting data is provided in Appendix H).
 - Transportation Impact Study, prepared by W-Trans (Appendix I).

- Trail Feasibility Study, prepared by Questa Engineering Corp. (Appendix I)

1.5 - Documents Incorporated by Reference

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

- City of Santa Rosa General Plan 2035
- City of Santa Rosa General Plan 2035 EIR (State Clearinghouse [SCH] No. 2008092114)
- Roseland Area Annexation EIR (SCH No. 2016012030)
- Santa Rosa City Code
- Santa Rosa Citywide Creeks Master Plan
- City of Santa Rosa 2015 Urban Water Management Plan
- City of Santa Rosa Local Hazard Mitigation Plan
- City of Santa Rosa Bicycle and Pedestrian Master Plan

In accordance with CEQA Guidelines Section 15150(b), City of Santa Rosa General Plan 2035, the City of Santa Rosa General Plan 2035 EIR, Roseland Area Annexation EIR, and Santa Rosa City Code and other documents that have been expressly incorporated herein by reference as being used in the preparation of this Draft EIR are available for review at the City of Santa Rosa Department of Planning and Economic Development as identified in Section 1.3.2, Public Review.

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CHAPTER 2: PROJECT DESCRIPTION

The project sponsor, Oakmont Senior Living, proposes to build a Continuing Care Retirement Community (CCRC) on an approximately 68.73-acre site located in eastern Santa Rosa. The purpose of this Draft Environmental Impact Report (Draft EIR) is to identify potential environmental impacts from implementation of the proposed Elnoka CCRC (referred to herein as the project) within the City of Santa Rosa, California. This chapter provides a detailed overview of the project site location and setting, project objectives, project details and characteristics (as proposed), phasing of construction, and required permits and approvals.

2.1 - Project Location and Setting

2.1.1 - Project Location

The project site is located at 6100 and 6160 Sonoma Highway on the east side of the City of Santa Rosa, California; refer to Exhibit 2-1. It is made up of the following 17 Assessor's Parcel Numbers (APNs): 031-061-003, 031-050-014, 031-050-018, 031-050-019, 031-050-060, 031-050-061, 031-050-062, 031-050-063, 031-050-064, 031-050-065, 031-050-066, 031-050-067, 031-050-068, 031-050-069, 031-050-070, 031-050-071, and 031-050-072. The site is located on the urban rural fringe of *Santa Rosa, California* United States Geological Survey 7.5-minute topographical quadrangle, Township 7 North, Range 7 West, Section 15 (Latitude 38°27'8" North; Longitude 122°37'26" West). The area around the site is locally referred to as the Valley of the Moon, which contains wineries, residential homes, and two regional/State parks; refer to Exhibit 2-2. The site is surrounded by large-lot, single-family residential uses, Melita Road to the northwest and undeveloped natural vegetation to the southwest. State Route 12 (known locally as the Sonoma Highway and referred to herein as the Sonoma Highway) and other large lot single-family residential homes are located to the northeast of the project site. Sonoma Highway is a 2-lane highway that is the main point of access between Santa Rosa and the rest of Sonoma County to the southeast.

2.1.2 - Existing Project Site Characteristics

The approximately 68.73-acre project site consists of 17 parcels, as shown in Exhibit 2-3. The project site is characterized by a ridgeline running southeast/northwest through the center. The gradient of slopes ranges from 10 percent to 25 percent, with steep slopes of greater than 20 percent on the north and east side and more moderate slopes of 10 percent on the west and south side. This ridgeline is defined in the Santa Rosa General Plan 2035 as a protected ridgeline and is shown in Figure 7-3 of the General Plan 2035 and is subject to General Plan 2035 goals and policies that protect ridgelines and limit ridgeline development. The elevation difference from the base of the hill to the crest of the ridge is approximately 70 to 100 feet with severe slopes on the north side that were created by previous grading.¹ In addition, several intermittent streams are located on the north, west, and southeast sides of the project site. The site contains four creeks that are considered jurisdictional and waters of the United States, as shown in Exhibit 2-4:

¹ Reese and Associates. 2017. Soil Investigation Report. January 19.

1. Oakmont Creek runs southeast to northwest through the southeast portion of the project site and along the southern border. Oakmont Creek flows through the Oakmont Golf Course and neighborhood, then alongside Channel Drive and Trione-Annadel State Park until it enters Santa Rosa Creek near Melita Road.
2. Annadel Creek is a seasonal creek that runs south to north from Trione-Annadel State Park and empties into Oakmont Creek at the southeast corner of the project site.
3. The Main Fork of Melita Creek is located on the northwest corner of the project site and runs northeast to southwest, parallel to Melita Road. Melita Creek is a tributary of Oakmont Creek.
4. The South Fork of Melita Creek is a seasonal drainage running east to west in the northern portion of the project site (near Sonoma Highway) and joins the Main Fork of Melita Creek just south of Susan Road on the project site.

Both the South Fork and Main Fork of Melita Creek are seasonal drainages for both the project site and Santa Rosa Creek. Most of the site consists of non-native grassland with small areas of valley oak woodland and riparian habitat. Oak woodlands line large portions of the creeks, and there are approximately 1,660 trees on-site. A majority of the on-site trees line the creeks and riparian areas. Rough grading utility work, and a bridge structure over the South Fork of Melita Creek was implemented on the project site as part of the proposed 1996/1997 Three Bridges/Pacific LifeCare project, which was approved, but never completed. The bridge components include the abutment and wing wall footings, precast bridge arch, and wing walls. Photographs of the project site are provided in Exhibit 2-5a and Exhibit 2-5b and show the grassland, riparian areas, and views from the top of the on-site ridgeline and from Sonoma Highway. The project site did not sustain damage as a result of the Tubbs or Nuns Fire, but all structures and many of the trees surrounding the former residences were destroyed in the October 2020 Glass Fire (Exhibit 2-8). It is expected that the debris and removal of former structures would be completed prior to project implementation.

2.1.3 - Existing General Plan Land Use Designation and Zoning

The project site is designated Very Low Density Residential (0.2-2.0 units per acre), Low Density Residential (2-8 units per acre), and Medium Density Residential (8-18 units per acre) by the Santa Rosa General Plan 2035 (Exhibit 2-6). The project site is currently zoned PD 93-002-RC (Planned Development within a Resilient City overlay) and R-3-18-RC (Multi-family Residential within a Resilient City overlay), as shown on Exhibit 2-7.

Pursuant to the City Zoning Code, a Planned Development Zoning District is designed to create high quality, single-, or mixed-use development that meets or exceeds the goals of the Santa Rosa General Plan 2035. In general, Planned Development Zoning Districts generally allow mixed uses under site-specific planning and development standards. The intent of the Planned Development Zone is to afford development proposals a degree of flexibility that regular zoning could not achieve in order to improve site design, preserve natural amenities, and lower development costs. An applicant would develop and propose a Policy Statement and Development Plan (Policy Statement) for the City to review and adopt. The City would require proposed development and new land uses within a Planned Development zoned area to conform to the approved respective Policy Statement.

In the mid-1990s, a majority of the project site was zoned to a Planned Development. The zone change had allowed a separate proposal to develop a community care facility, formerly the Santa Rosa LifeCare Community, on the current project site. The previous Policy Statement, prepared for and adopted by the City, articulates the purpose and objectives to develop the project site into an active adult community with a maximum of 460 dwelling units. The Policy Statement included land use categories and building standards that would guide development. The Policy Statement also included a Conceptual Development Plan that established appropriate land uses and project component configurations to support a continuing care retirement community. The Policy Statement and Conceptual Development Plan contained standards for architecture, circulation, landscaping, and open space.

In 2008, the Santa Rosa City Council rezoned a 9.65-acre parcel at the northeast corner of the site. The parcel was rezoned to R-3-18 (Multi-family Residential) in conjunction with a City sponsored General Plan 2035 update in 2006.² Pursuant to the Zoning Code, the R-3-18 zoning district seeks to provide a range of housing types and improve access to a variety of housing options within a given area of the City.

According to the City Zoning Code, community care facilities are allowed in residential land use designations and zoning districts (refer to Zoning Code Section 20-22.030, Table 2-2: Allowed Land Uses and Permit Requirements for Residential Zoning Districts for permit requirements). The General Plan Housing Element further encourages housing development that accommodates or otherwise provides housing for the elderly. In addition, the Zoning Code (community care and health care facilities) requires that a facility (other than those located in Priority Development Areas [PDAs] or the Downtown Core) housing more than seven persons to obtain a conditional use permit. The purpose of regulating the location of community care and health care facilities is to permit these services, pursuant to State law, while avoiding or mitigating incompatibilities, over concentration or adverse effects upon surrounding neighborhoods.

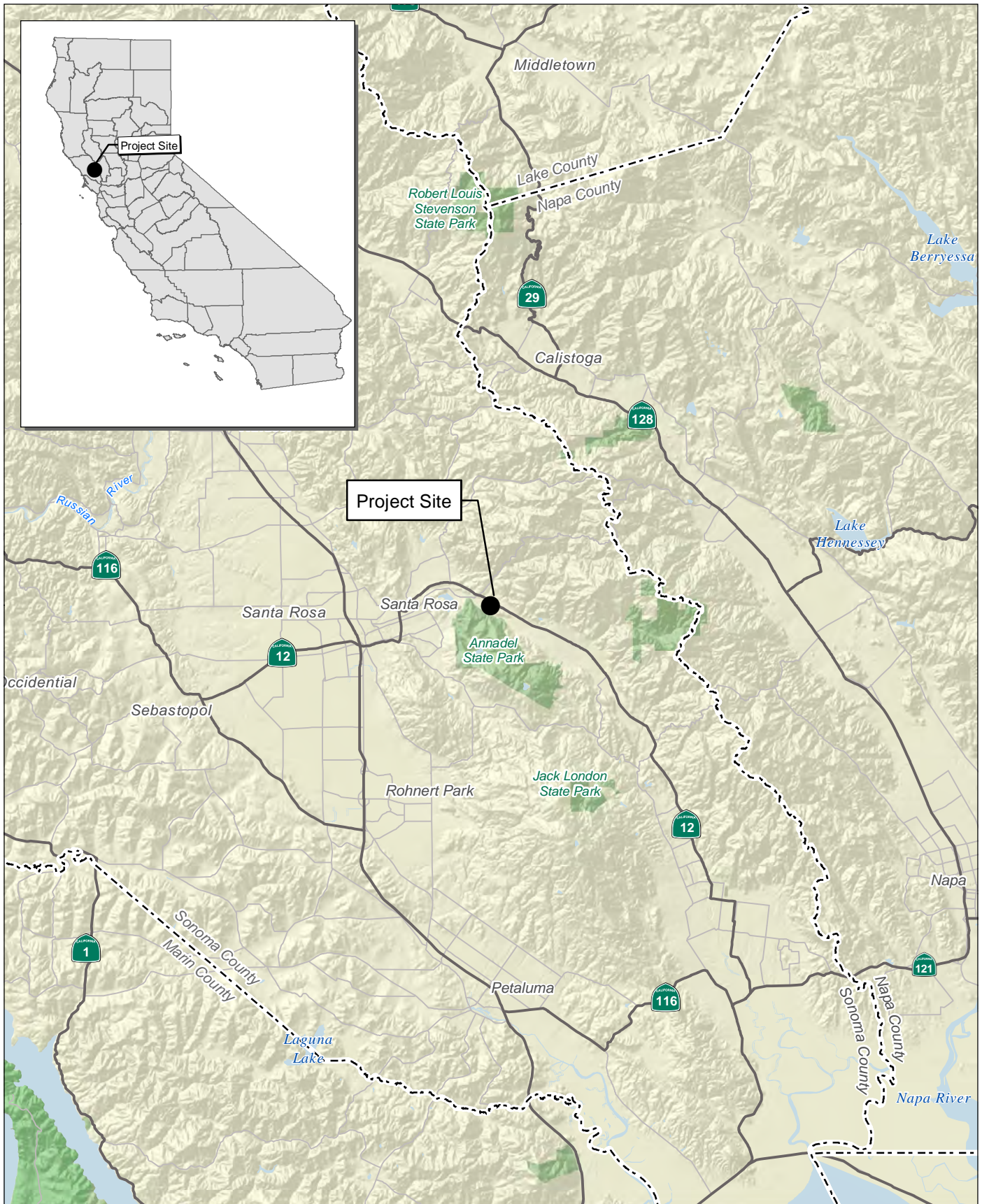
2.1.4 - Surrounding Land Uses

The area around the project site has a rural residential character in general. Large lot (0.2 to 2 units per acre) single-family residential uses are located west/northwest of the project site on Melita Road. North of the project site are similar large lot single-family residential uses on Susan Road. North/northeast of the Sonoma Highway are large lot single-family homes in unincorporated county land. To the southwest there is undeveloped natural vegetation.

Oakmont Village, a master planned retirement community in Santa Rosa, is located east/southeast of the project site. Oakmont Village was developed in the 1960s, is home to more than 4,500 residents, and contains commercial retail stores, a market, two golf courses, several recreation centers, a post office, and a fire station. Channel Drive and Trione-Annadel State Park are located south and southwest of the project site. Along Channel Drive there are several large lot single-family homes situated between the project site and Trione-Annadel State Park. The State Park is 5,092 acres in area and encompasses the foothills southeast of Santa Rosa, including Bennett Mountain. The State Park is accessible along Channel Drive from Melita Road, and offers hiking trails and recreational fishing areas.

² Brelje & Race Consulting Engineers. 2017. Elnoka CCRC Policy Statement. May.

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Source: Census 2000 Data, The CaSIL, FCS GIS 2016.

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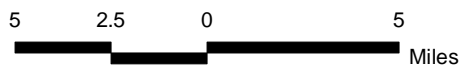
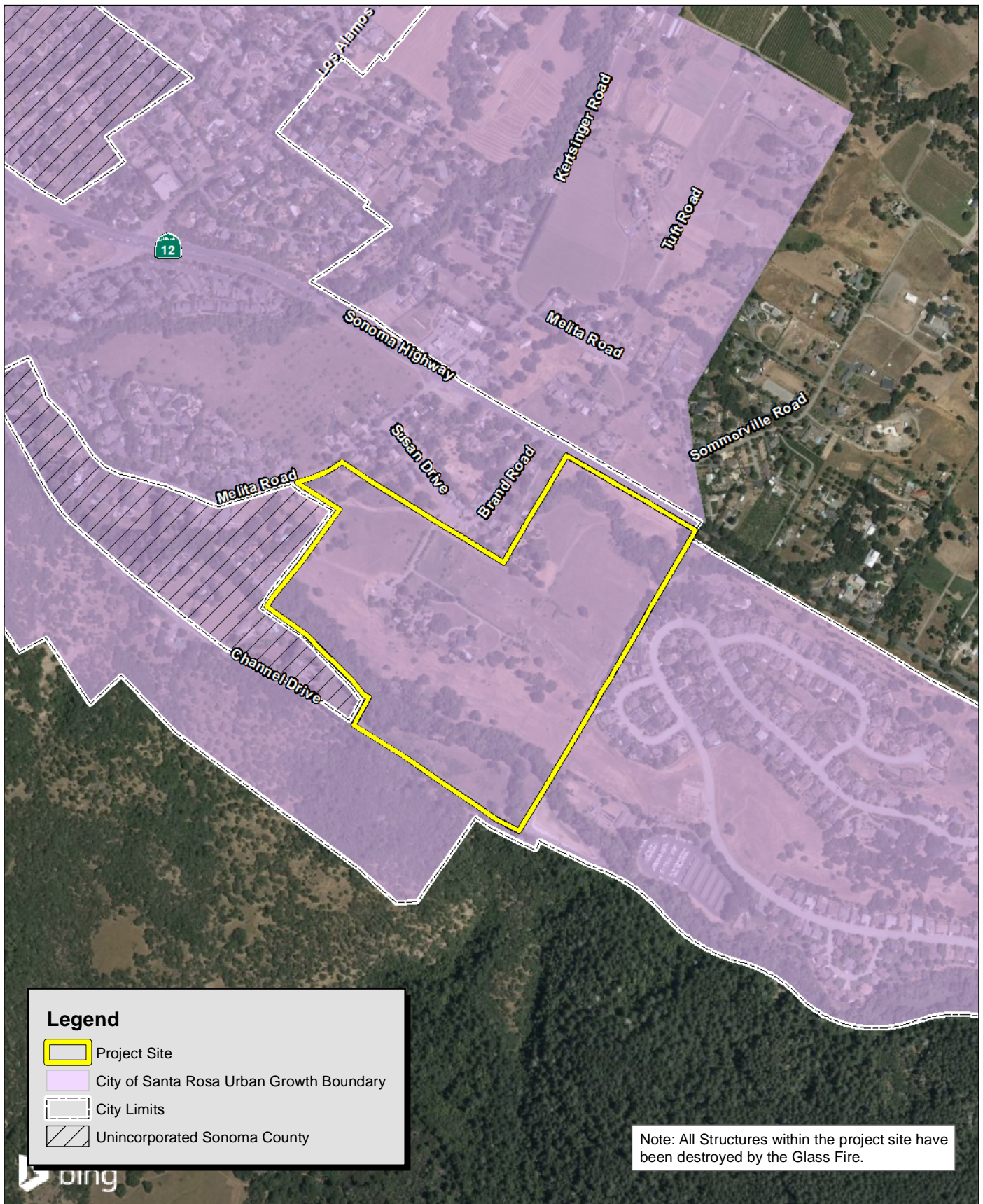


Exhibit 2-1 Regional Location Map

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Source: Bing Aerial Imagery. City of Santa Rosa GIS Data.

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Exhibit 2-2 Local Vicinity Map Aerial Base

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Source: USFWS NWI, NHI



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Photograph 1: Looking south from the property line near Susan Drive.



Photograph 2: Looking east from the western end of the site toward the ridgeline in the center of the project site.



Photograph 3: Looking west from the ridgeline in the center of the site.



Photograph 4: Looking southwest from the ridgeline in the center of the site toward the Oakmont Creek riparian area.

Source: FirstCarbon Solutions, 2017.

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Exhibit 2-5a Site Photographs

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Photograph 5: Looking at Oakmont Creek.



Photograph 6: Looking south from Melita Creek bed on the west side of project site.



Photograph 7: Looking southwest from Sonoma Highway at northeast corner.



Photograph 8: Existing bridge structure crossing the South Fork of Melita Creek.

Source: FirstCarbon Solutions, 2017. Photo 8 taken January 15, 2020.

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Source: Brelje and Race, 2017



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Source: Brelje and Race, 2017

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Exhibit 2-7 Zoning Code Designations

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ENVIRONMENTAL IMPACT REPORT

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Source: ESRI Imagery



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2.2 - Project Description

2.2.1 - Land Uses

Residential Component

Initially, the project included the proposed demolition of three single-family residences that existed on the project site; however, all three structures were destroyed in October 2020 as a result of the Glass Fire. (see Exhibit 2-8).

The project would develop 676 new living units, 12 of which are intended for employee housing, and associated improvements and amenities, which would be licensed by the State of California as a Continuing Care Retirement Community. Exhibit 2-9 through Exhibit 2-10e show the conceptual site plan and describes the location of the proposed community care units and associated buildings. This is 100 percent market rate development.

Types of dwelling units would consist of cottages, apartments, care-center units, and attached multifamily units intended as employee housing as summarized in Table 2-1 and described below:

- The cottages would all be single story, 2-bedroom homes that would be approximately 2,500 square feet, and would offer independent living with personal backyards, garages, and various floor plans.
- The community care apartment units would be in 2- and 3-story buildings with underground parking garages, 1- and 2-bedroom units that provide residents with a communal setting.
- The care-center units would provide day-to-day care for physically and cognitively impaired residents and offer studio and one-bedroom floor plans. The type of care provided by the care-center units would include incidental medical care as well as prescribed meals, assistance with activities such as dressing, eating, bathing, and medication, and arranged transportation for medical appointments.
- The 12 attached single-family units are intended for employee housing. These units would include at least six 2-bedroom units and six 3-bedroom units located in two 2-story buildings. As proposed the project would be fenced and gated private site not open or accessible to the public.

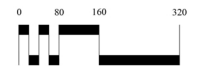
Table 2-1: Proposed Dwelling Unit Summary

Type of Housing	Number of Units
Cottages (Detached)	74
Apartments (Attached)	528
Care Center Units	62
Single-family (Attached, intended for employee housing)	12
Total	676

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EMPLOYEE HOUSING	24
SENIOR APARTMENTS	615
SENIOR CARE CENTER	75
COTTAGES	64
	<u>778</u>



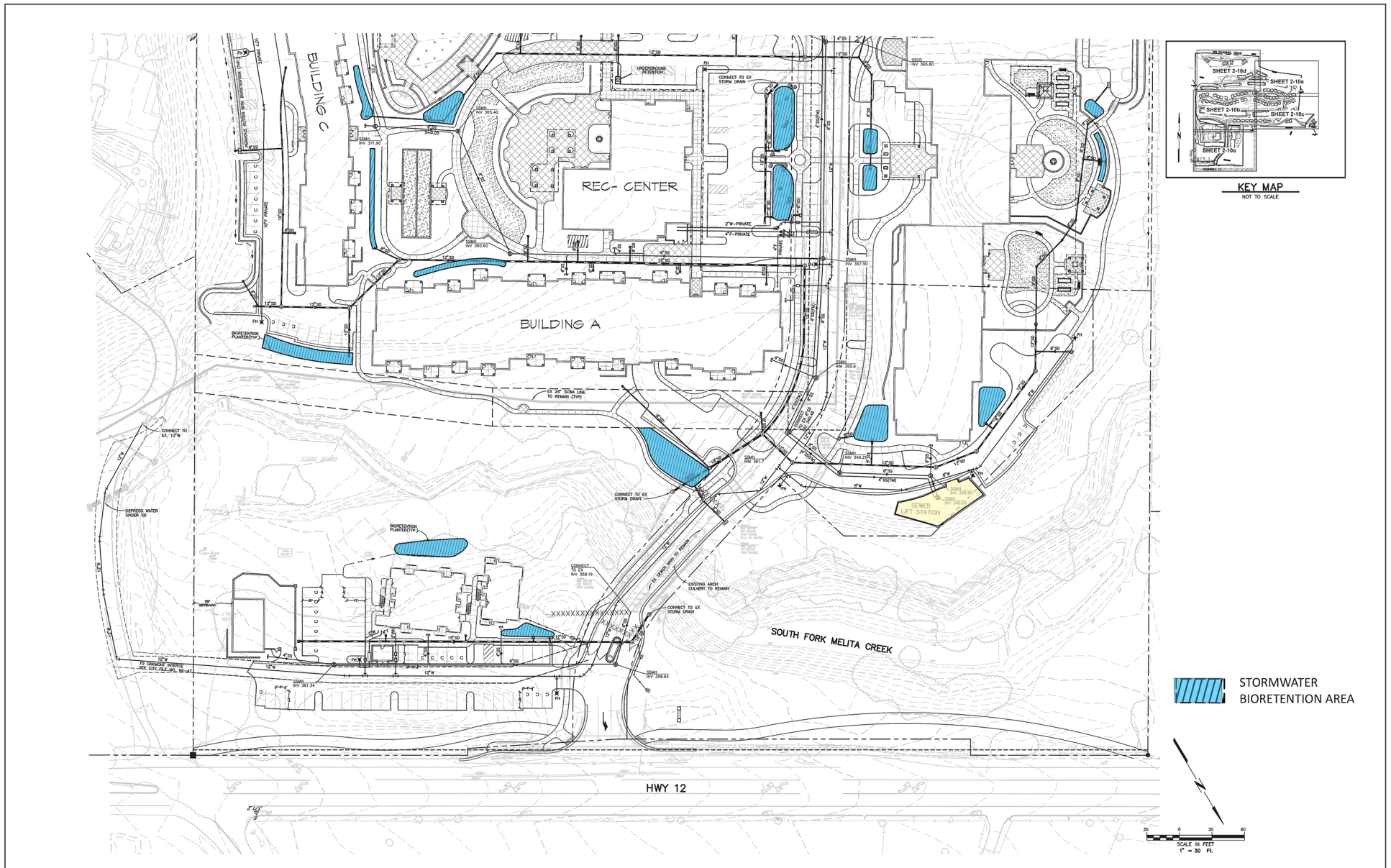
Source: Landesign Group, January 2016.

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Exhibit 2-9 Illustrative Site Plan

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Source: Brelje and Race, 2020.

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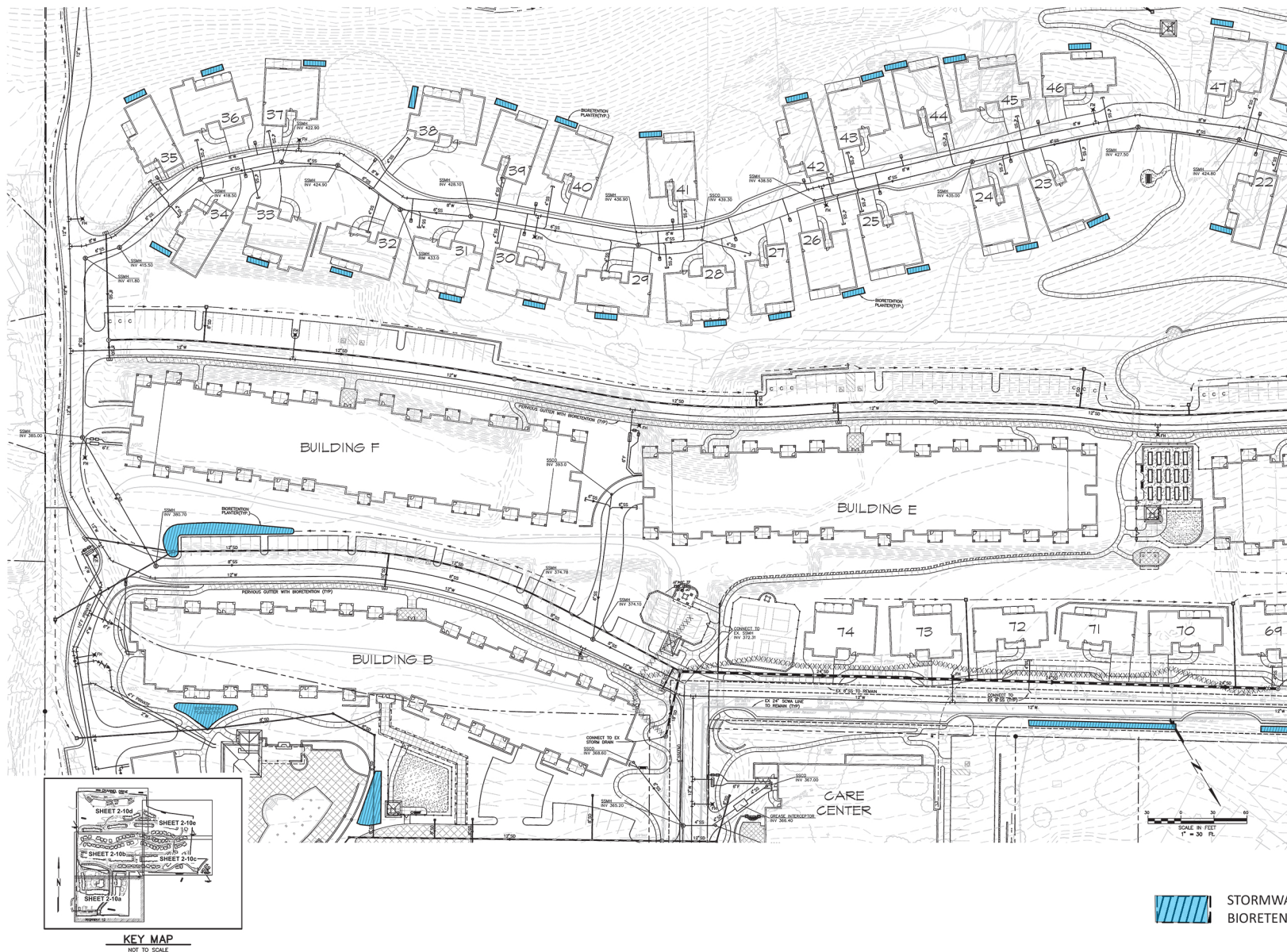


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Exhibit 2-10a Utilities Map

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ENVIRONMENTAL IMPACT REPORT

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Source: Breje and Race, 2020.

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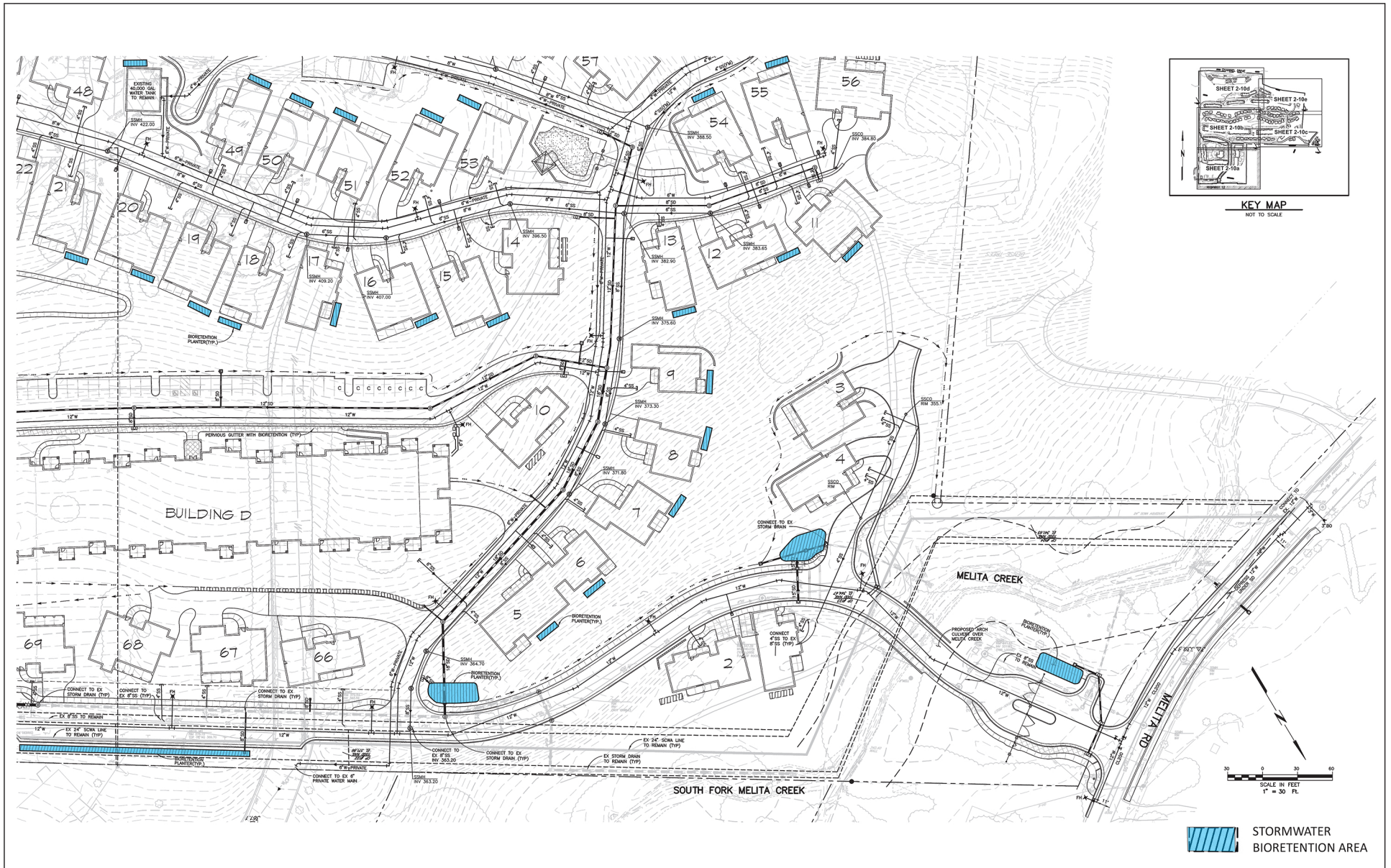


Exhibit 2-10b
Utilities Map

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ENVIRONMENTAL IMPACT REPORT

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Source: Brelje and Race, 2020.

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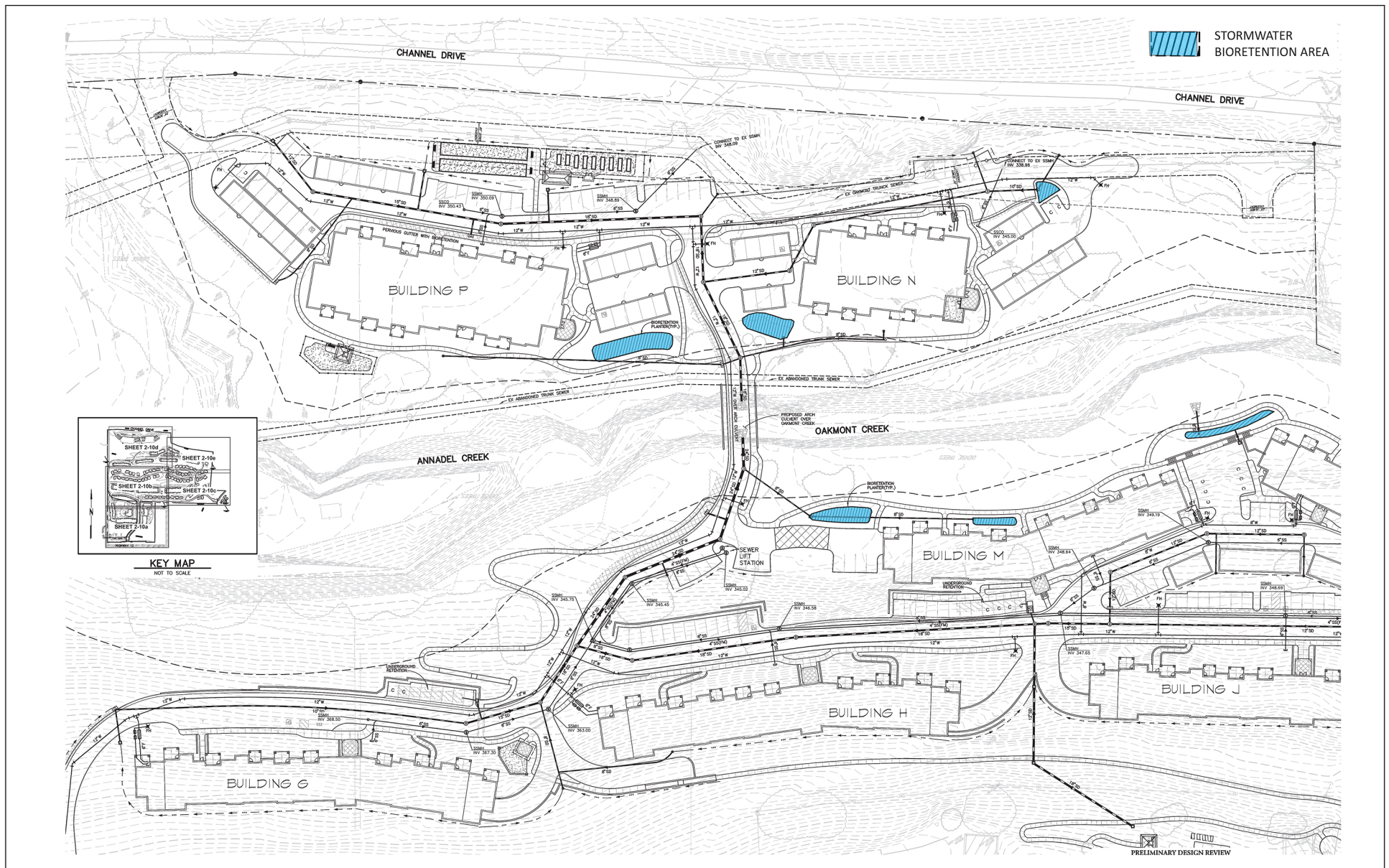


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Exhibit 2-10c
Utilities Map

CITY OF SANTA ROSA • ELNOKA CCRC PROJECT
ENVIRONMENTAL IMPACT REPORT

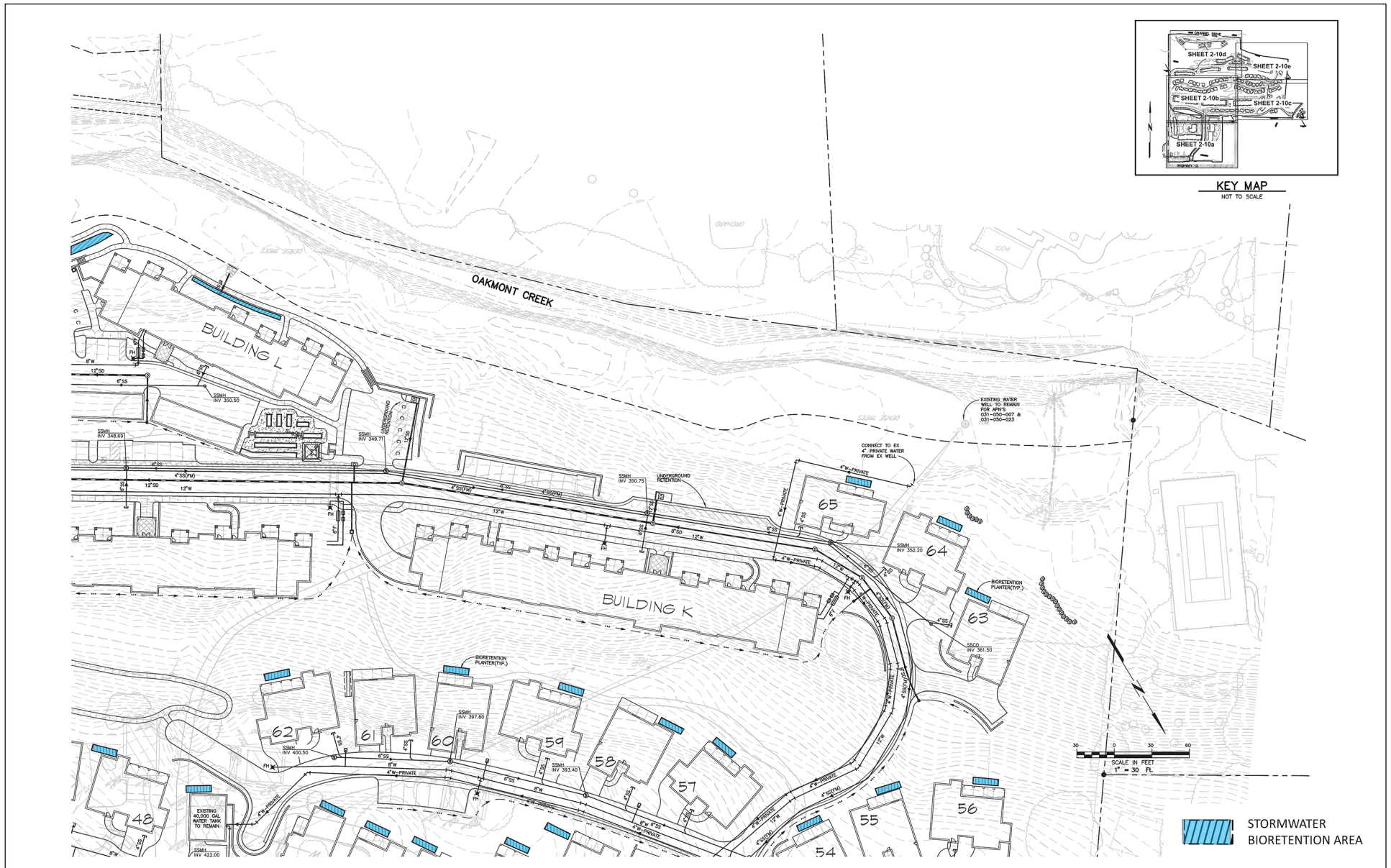
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Source: Brelje and Race, 2020.

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Exhibit 2-10e Utilities Map

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Ancillary Facilities and Recreational Components

The project would include ancillary facilities and other building amenities to serve residents. Ancillary facilities may include private and formal dining rooms, a café, entertainment and activity rooms, a beauty salon, reading rooms, banking services, a business center, and outside courtyards. There would also be an in-house fitness center and a media room. The outdoor recreation areas, which would include a swimming pool, sports and bocce courts, resident gardens, pet parks and walking paths, would be available to residents and their guests. The swimming pool, recreation center, bocce courts, and two pet parks are proposed in the northern area of the site near the main entry across from the care center.

Residents of the cottages and apartments would pay a one-time entrance fee plus monthly rent, which includes use of amenities. Additional fees would be assessed on a per use basis for meals and other services. Hours of use for these amenities would be limited to daylight hours and limited evening hours.

Residents of the care center would pay a one-time community fee plus a monthly rent, which includes all three daily meals and weekly housekeeping. Additional fees would be assessed on a per need basis for other services.

2.2.2 - Circulation and Access

Vehicle

Primary vehicle access to the project site would be from a gated entrance along Sonoma Highway at Elnoka Lane and a secondary gated entrance along Melita Road. The project site is located at 6160 Sonoma Highway at Elnoka Lane. The Sonoma Highway runs east/west along the project frontage and includes four lanes (two in each direction). To the east of Melita Road, Sonoma Highway reduces to one through lane in each direction, including a two-way left-turn lane on the 0.3-mile segment to the east of the Melita Road signal. Melita Road is a 2-lane local street that passes through a combination of rural residential and suburban contexts. The street has three distinct sections including an eastern segment between Sonoma Highway and Montgomery Drive, a central segment that includes the secondary project access between Los Alamos Drive and Sonoma Highway, and an eastern “loop” segment north of Sonoma Highway and the project site.

Transportation

Santa Rosa CityBus provides local bus service within the City of Santa Rosa. However, no CityBus routes currently serve the project area. Sonoma County Transit (SCT) provides regional bus service in Santa Rosa and surrounding communities, with multiple routes and stops located within the study area, including several that connect to Santa Rosa CityBus routes. Local Routes 30 and 34 provide regional bus service to the project site.

Bus stops serving these routes are located along Sonoma Highway at Calistoga Road, Melita Road (west), Mountain Hawk Drive, Fairway Drive, Los Alamos Road, Melita Road (east end), and Oakmont Drive. The bus stop at the east end of Melita Road is adjacent to the project access (Elnoka Lane) for eastbound bus routes, and approximately 220 feet east of the project access in the westbound direction. Route 38, which provides service from Oakmont to Sonoma is also served by the bus stops at Oakmont Drive.

Route 30 provides service from Santa Rosa to Sonoma, with stops at Kaiser and Memorial Hospitals, the downtown transit mall, and shopping centers in Santa Rosa. The route operates Monday through Friday with approximately 2-hour headways from 6:00 a.m. to 9:30 p.m. On weekends, service is provided with approximately 3-hour headways from 6:00 a.m. to 8:30 p.m.

Route 34 provides commuter service from the Santa Rosa downtown transit mall to Sonoma. The route operates Monday through Friday with one stop during the morning (AM) peak-hour and one in the evening (PM) peak-hour at 5:30 p.m. Most SCT buses provide space for two bicycles on a first-come, first-served basis.

In addition, Dial-a-ride, also known as “paratransit,” or door-to-door service, is available to local residents. The service accommodates persons who are unable to independently use the transit system. Santa Rosa Paratransit and Sonoma County Paratransit are designed to serve the needs of such individuals with within Santa Rosa and the greater Santa Rosa area.

Bicycle

In the project area, Class II bike lanes exist on Calistoga Road from Badger Road to Sonoma Highway, for approximately 1.43 miles. Approximately 0.77-mile of Class II bike lanes also exist on Montgomery Road between Melita Road and Spring Lake Court. A Class III bike route currently exists on Mountain Hawk Drive from Sonoma Highway to San Ramon Way, a distance of approximately 0.55-mile. The City of Santa Rosa Bicycle and Pedestrian Master Plan Update 2018 indicates that a Class I shared-use path is planned along Sonoma Highway from Melita Road west of the project site, along the project frontage, and east to Shady Acres Lane. A Class II bike lane is currently planned for Los Alamos Road between Melita Road and Sonoma Highway. An additional Class III bike lane is proposed on Channel Drive, from Montgomery Drive, along Channel Drive and extending to the southeastern edge of the project site.

The 2018 Santa Rosa Bike and Pedestrian Master Plan³ also includes two study routes: one located along Santa Rosa Creek between Melita Road and Sonoma Highway, and one located along the project’s eastern boundary extending from Channel Drive to Sonoma Highway (Exhibit 3.14-2), also known as the Channel Drive trail connector. The project prepared a Trail Feasibility Study in 2020 to assess the potential for a Channel Drive trail connector, consistent with the City Bicycle & Pedestrian Master Plan (Study options 1A and 1B). An alternative trail alignment would provide a Class II shared use trail along the entirety of the project’s Highway 12 frontage, consistent with the 2016 Sonoma Valley Trail Feasibility Study. While this discussion is not required for the CEQA analysis, it has been left in to inform conditions of approval associated with the Project.

A Class I multi-use path called the Sonoma Valley Trail is planned by Sonoma County to generally parallel Sonoma Highway between Los Alamos Road and Agua Caliente Road. The approximately 13-mile-long trail would serve as a key bicycle linkage in a larger, cross-county network that would connect Sebastopol to Sonoma and beyond. The Sonoma County Regional Parks Department identified a preferred alignment for the trail in its January 2016 Sonoma Valley Trail Feasibility Study. To the west of Elnoka Lane, the alignment identified by the Sonoma Valley Trail Feasibility Study would enter and traverse the project site, meeting Melita Road at Susan Road, and then running alongside Melita Road to the vicinity of Los Alamos where the trail would end. However, the project

³ City of Santa Rosa. 2018. Bicycle and Pedestrian Master Plan Update 2018.

would be a gated community with private streets. The project design and features reflect the security and privacy needs of future residents. Thus, in a letter dated January 22, 2016, the applicant notified the Sonoma County Regional Parks Department that a public trail through the project site would conflict with senior resident needs. The applicant stated that the Sonoma County Regional Parks Department's trail alignment along the South Fork of Melita Creek and Sonoma Highway is not the preferred alignment for the project. The planned alignment through the project site was removed per court order. The project proposes a publicly accessible Class II bicycle/pedestrian trail along the Sonoma Highway project frontage, as shown on Exhibit 2-9.

Pedestrian

In general, public sidewalk coverage along Sonoma Highway is limited and piecemeal with large gaps between existing segments. Sidewalks are available on the north side of Sonoma Highway from Calistoga Road to Melita Road (west) and on the south side of Sonoma Highway from Melita Road (west) to Saint Francis Road. Sidewalk coverage on the south side of Sonoma Highway begins again 350 feet west of Queen Ann Drive and extends east to Feliz Road. Sidewalk coverage on the north side of Sonoma Highway then begins again approximately 370 feet west of Saint Francis Road and continues east to Mountain Hawk Way. There is an additional segment of sidewalk on the north side of Sonoma Highway from Fisher Road to a point approximately 260 feet east and another 310-foot segment of sidewalk on the south side of Sonoma Highway, bordering Hope Chapel Santa Rosa, across from Fairway Drive. There are no additional public sidewalks between the existing sidewalk bordering Hope Chapel and Oakmont Drive, with no sidewalks bordering the project site.

The project proposes private, on-site pedestrian linkages and trails for residents and guests. Private walking paths would be interspersed throughout the project site and connect residents to natural open space areas. The publicly accessible Class II bicycle/pedestrian trail to be included along the project's Sonoma Highway project frontage would contribute to public pedestrian connectivity in the project vicinity.

2.2.3 - Design, Landscaping, and Lighting

Building Design and Height

Buildings would be constructed in a variety of architectural styles and would vary in form, massing, scale, and materials while maintaining a character compatible with the site and context. (The Policy Statement allows for a maximum building height of 55 feet for Commercial and Multi-Family Housing, 25 feet for Single-Family Housing, and 16 feet for structures within Open Space areas). The apartment buildings as proposed would be 2- and 3-stories with a maximum height of 43 feet. The Community Center and Assisted Living buildings as proposed would be 2- to 3-stories with a maximum height of 49 feet, in compliance with the Policy Statement. Buildings would be setback at least 70 feet from all perimeter property lines, except the Sonoma Highway frontage where the setback would be at least 35 feet. Note that, per the Policy Statement's Development Plan (See Appendix H Attachment 2) onsite open space would remain along the Sonoma Highway frontage from the project entrance to the west. Given the size and scale of this project, varying architectural themes are proposed. All structures, with the exception of detached cottage units, would be subject to Design Review. All structures proposed on slopes greater than 10 percent would be subject to a Hillside Development Permit.

Landscaping and Open Space

The conceptual site plan respects the natural features and slopes of the site and integrates trees, creeks, and riparian areas into the design. The project includes walking paths along the Oakmont Creek and South Fork of Melita Creek that would provide residents areas to view the creek and riparian areas on-site. The project's placement of homes along the natural contours of the site would ensure the natural curvature of the hill is maintained. Proposed landscaping, trees, and shrubs would enhance screening throughout the project site and minimize the visual impacts of the buildings and homes. The project would provide walkways and nature paths that offer residents a greenway along Melita Creek on the south side and throughout the project site. Over 58 percent of the site would be left as natural open space or newly landscaped area. Over 75 percent of the trees on-site would also remain in place. The project site coverage summary is provided in Table 2-2.

Table 2-2: Project Site Coverage Summary

Project Component	Acreage	Percent Coverage
Natural Open Space	16.69	24.29
Landscaped Area	23.49	34.18
Parking and Circulation	11.15	16.22
Exterior Flatwork	4.38	6.37
Building	13.02	18.94
Total	68.73	100

Lighting and Signage

The project would have monument signs at the Sonoma Highway and the Melita Road entrances. A 14-foot light standard will be used for the proposed development; the design is depicted on provided development plans.

2.2.4 - Infrastructure Improvements

As part of the previously proposed 1996/1997 Three Bridges/Pacific LifeCare project, utility infrastructure was designed for on-site implementation. The current state of that infrastructure remains to be verified. As a part of the project, the applicant would verify existing on-site infrastructure and would install infrastructure needed for the project, as described below.

Public On-site Water System

The proposed project will be served by the City of Santa Rosa water system. No water distribution lines were constructed on the site as part of the Three Bridges Subdivision. An existing 24-inch Sonoma Water Aqueduct traverses the site from the east at Stone Bridge Road to the west at Melita Road and is to remain in place. All proposed on-site water distribution mains, water meters, and fire hydrants are proposed to be public and are to be constructed within public water easements. A new water main will be extended across the proposed bridge crossing Oakmont Creek on the south side of the project site to serve the proposed units on the south side of Oakmont Creek. The proposed

public water lines will be connected to the existing City of Santa Rosa Water system at two locations. The first connection location is on the northeast side of the project to an existing 12-inch water main within the Emergency Vehicle Access (EVA) road connected to Stone Bridge Road within the Oakmont NO. 15C Subdivision. The second connection is on the north side of the project site to the existing 12-inch water line within Melita Road. See Exhibit 2-10a through Exhibit 2-10e; utility plans for more information.

Private On-site Storm Drain System

The proposed on-site storm drain system as well as stormwater quality improvements and devices will be privately owned and maintained. The proposed project intends to use all the existing storm drain outfalls constructed with the Three Bridge Subdivision. The proposed project would also use portions of the existing on-site storm drain system constructed with the Three Bridges Subdivision. There are two existing storm drain outfalls to the South Fork of Melita Creek on the north side of the project and the three existing storm drain outfalls to the South Fork of Melita Creek on the west side of the project site. New storm drain outfalls to Oakmont Creek will be required on each side of the Creek to provide storm drain connections to the proposed development on each side of Oakmont Creek. The existing precast concrete arch bridge at the South Fork of Melita Creek on the north side of the project site will remain and a new asphalt road will be installed on top of the bridge to cross the creek. Two new bridges are proposed with this project: one crossing the South Fork of Melita Creek on the west side of the project and the second at Oakmont Creek on the south side of the project site. See Exhibit 2-10a through Exhibit 2-10e; utility plans for more information.

Private On-site Sewer System

The proposed sewer system for the Elnoka CCRC project will be privately owned and maintained. To avoid disturbance of Melita Creek, the portions of the existing sewer systems previously constructed as part of the Three Bridges Subdivision, in two locations under Melita Creek, is proposed to be utilized using a method to be approved by the City Utility Department. Proposed concepts to remediate this existing line, as approved by the City Utility Department, would be pipe bursting and pulling of a new continuous length of high-density polyethylene (HDPE) sewer line through the existing old line or slip lining of the existing sewer. All other existing sewer lines and structures, outside of the Creek areas, previously constructed by the Three Bridges Subdivision will be removed or abandoned in place with new sewer mains constructed to serve the proposed use. Many of the proposed units on the north side of the existing ridgeline are designed to gravity flow to a proposed private on-site lift station on the north side of the project site, which will pump the sewage back to a portion of the proposed on-site gravity system that flows west and would connect to the City's existing 8-inch sanitary sewer line in Melita Road. It is proposed that the private sewer collection system serving the portion of the project site located south of the ridgeline and north of Oakmont Creek will also be served by a second private lift station on the north side of Oakmont Creek, which would pump sewage north and west to discharge to the City's 8-inch gravity sewer in Melita Road. Sewage from the units between Oakmont Creek and the south property line will gravity flow to the City's 18-inch Oakmont trunk sewer that runs in an easement on the property along the south side of the project area. The on-site sewage collection system and the two lift stations will be privately

owned and maintained. See Exhibit 2-10a through Exhibit 2-10e; utility plans for the proposed sewer alignment.⁴

Solid Waste and Recycling Collection

The City of Santa Rosa contracts with Recology to provide solid waste collection and curbside recycling for residential and commercial uses. Services include individual bins to sort composting, recyclables, and solid waste. Recology currently provides a ZeroWaste recycling program, which helps commercial and multi-unit properties apply best management practices to collect compostable, recyclable, and solid waste materials. Recology collects and transports residential and commercial solid waste to the Central Disposal Site Transfer Station at 500 Meacham Road in the City of Petaluma. Once at the transfer station, solid waste is sorted and hauled to three county landfills within the Bay Area: Redwood Landfill in Marin County, Keller Landfill in Contra Costa County, and Potrero Hills Landfill in Solano County.

Keller Canyon and Potrero Hills are expected to reach capacity in 2030, and Redwoods is expected to reach capacity in 2039.⁵

Power and Telecommunications

The project site would be served by Pacific Gas and Electric Company (PG&E) from existing overhead electrical and underground natural gas lines along Sonoma Highway and Melita Road. Sonoma Clean Energy may also provide customers with energy from alternative sources. Phone and internet services would be provided by various companies, including AT&T, Xfinity Comcast, and Verizon.

2.2.5 - General Plan Land Use Designation and Zoning

As described above and shown on Exhibit 2-6, the project site is designated Very Low Density Residential (0.2–2.0 units per acre), Low Density Residential (2.0–8.0 units per acre), and Medium Density Residential (8.0–18.0 units per acre) by the Santa Rosa General Plan 2035.

The project site is currently split zoned: the majority of the site is zoned PD 93-002-RC (Planned Development within a Resilient City overlay); however, approximately 9 acres is zoned R-3-18-RC (Multi-family Residential with 18 dwelling units per acre within a Resilient City overlay). Parcels fronting Sonoma Highway and Melita Road are also within the -SR (Scenic Road) combining district. No changes to the General Plan 2035 land use designations are proposed, although modifications to the existing Policy Statement associated with the existing Planned Development are proposed.

Planned Development

The existing Policy Statement associated with the project site's existing Planned Development zoning allows a maximum of 460 residential units. As part of the project, the existing Policy Statement would be modified to increase the maximum number of residential units to 676 with shifted densities. In addition, the Planned Developments' Policy Statement will be modified to require that approximately

⁴ Brelje & Race Consulting Engineers. 2020. .

⁵ City of Santa Rosa. 2009. City of Santa Rosa General Plan 2035. Website: <https://srcity.org/DocumentCenter/View/3095/Santa-Rosa-2035-General-Plan-PDF>. Accessed June 2018.

24 percent of the project site be maintained as undisturbed open space, with an additional approximately 34 percent of the site devoted to landscaped open space (a total of 58 percent combined). This is a change from the existing requirement that over 50 percent of the project site be maintained in open space with no differentiation between undisturbed and landscaped open space. The Policy Statement has been updated to address land uses and design standards for the project and to be otherwise consistent with the City's Zoning Code for future changes or uses not specifically addressed in the revised Policy Statement.

Zoning

Per the Zoning Code, the proposed land use type is a Community Care Facility of more than 6 units which is defined by Zoning Code Chapter 20-70 as "a facility, place, or building that is maintained and operated to provide non-medical residential care, which may include home finding and other services, for children and/or adults, including: the physically handicapped; mentally impaired, mentally disordered, or incompetent; developmentally disabled; court wards and dependents; neglected or emotionally disturbed children; the addicted; and the aged."

Senior Housing Combining District

As a part of the project's rezoning, a Senior Housing (-SR) combining district will be added to the project site's zoning. The -SR combining district is intended to create a new zoning district for senior housing and to provide a process through which property may be rezoned specifically as housing for older persons in compliance with federal and State Fair Housing Law by establishing a clear set of requirements. Those requirements include occupancy age-minimums, senior housing status notification, Housing Authority compliance, and biennial verification.

Phasing and Construction

The project proposes construction of a total of 676 living units in five phases over a period of 5 years starting in 2021. Phase 1 includes the construction of 202 community care units and 12 employee units. The remaining 462 community care units would be built over the four additional phases. The first phase would require approximately 12 months to construct. For the purposes of evaluating impacts in this Draft EIR, Phase 1 will be assumed to start construction in June 2020⁶ and open operationally in January 2021. The timing of the subsequent phases will depend on market conditions. However, for conservative purposes, including assumptions about energy efficiency for construction vehicles as well as passenger vehicles during project operation, the analysis in this Draft EIR has been based on a construction start date of June 2020.

In order to present a conservative scenario, it is assumed that Phase 1 would include demolition, site preparation, and grading for entire project area to be developed. In addition to constructing 214 units, Phase 1 includes necessary paving, and an approximately 23,800-square-foot community recreational center. For the purposes of a conservative analysis in this Draft EIR, it is assumed that a construction phase would occur every calendar year, with Phase 2 beginning in January of 2022. As specific construction schedules and detailed information per phase is not known at this time, conservative default assumptions will be used for purposes of analyzing and modeling construction

⁶ Emissions will reduce through time as regulations become stricter and vehicles become more fuel efficient. Modeling using a 2020 start date would therefore provide a conservative analysis.

durations and equipment for Phases 2 through 5. The assumed construction schedule and parameters are provided in Appendix C.

2.3 - Project Objectives

The project sponsor's objectives of the project are to:

1. Positively contribute to the local economy through new capital investment, the construction of new dwelling units, and the creation of new recreational pursuits.
2. Develop a vacant infill site within the City limits in an economically viable manner while taking into consideration the security, safety and privacy needs of the senior community to be served by the project along with various site constraints and the desire to minimize impact to the natural terrain to the extent feasible.
3. Create a range of senior housing opportunities to meet market demand for this type of housing product in Sonoma County.
4. Develop a complete community with a flexible range of residential options, recreational amenities, and daily services to cater to the needs of residents, and to reduce off-site vehicle trips.
5. Provide market rate units intended for on-site employee housing in the interests of reducing commute times and contributing to the City's housing stock.
6. Provide efficient and safe access to and from the project site and effectively manage traffic in the vicinity of the project site.
7. Cluster residential development on the project site to preserve significant amounts of open space areas adjacent to the riparian corridors.
8. Preserve and protect Oakmont Creek by establishing a greenway along the creek corridor. This greenway would be provided for use by residents and staff. It would not be open to the public.
9. Promote land use compatibility with neighboring residential uses through the use of clustering, preservation of significant amounts of trees, thoughtful site design that takes into consideration the natural topography, landscaped setbacks, and the preservation of substantial amounts of natural open space.

2.4 - Required Approvals

Discretionary approvals and permits are required by the lead agency, the City of Santa Rosa, for implementation of the project and include the following discretionary approvals and actions:

- Design Review (for all structures, with the exception of detached single-family residences)
- Conditional Use Permit (for Community Care Facility)
- Hillside Development Permit (for all development on slopes greater than ten percent, including single-family residences)

- Rezoning (for modifications to the existing Policy Statement; inclusion in the Senior Housing (-SH) combining district; and rezoning APN 031-050-062 from the R-3-18-SR-RC district into the PD 93-002-RC district)

The City Council will be the final decision-making body for the project.

In addition, subsequent ministerial actions would be required by the City of Santa Rosa for implementation of the project, including issuance of grading and building permits and encroachment permits.

A number of other agencies in addition to the City of Santa Rosa will serve as Responsible and Trustee Agencies, pursuant to CEQA Guidelines Section 15381 and Section 15386, respectively. This Draft EIR will provide environmental information to these agencies and other public agencies, which may be required to grant approvals or coordinate with other agencies, as part of project implementation. These agencies may include but are not limited to the following:

- United States Army Corps of Engineers (USACE)
- California Department of Transportation (Caltrans)
- California Department of Fish and Wildlife (CDFW)
- United State Fish and Wildlife Service (USFWS)

2.5 - Intended Uses of the Draft EIR

The Draft EIR has been prepared to assess the potential environmental impacts that may arise in connection with actions related to implementation of the project. Pursuant to CEQA Guidelines Section 15367, the City of Santa Rosa is the lead agency for the project and has discretionary authority over the project and its approvals. The Draft EIR is intended to address proposed public and private infrastructure improvements and all development that is within the parameters of the project as described herein.

This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the project. The Draft EIR will be circulated for 45 days, during which period comments concerning the analysis contained in the Draft EIR should be sent to:

Kristinae Toomians, Senior Planner
Planning & Economic Development
100 Santa Rosa Avenue, Room 3
Santa Rosa, CA 95404
Tel: 707.543.4692
Fax: 707.543.3269
Email: ktoomians@srcity.org

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CHAPTER 3: ENVIRONMENTAL IMPACT ANALYSIS

This chapter sets forth the physical and regulatory environmental setting and addresses the environmental impacts of the project with respect to 16 environmental resource areas. The discussions of the environmental setting describe the present physical conditions, or baseline conditions, in the project area. In accordance with California Environmental Quality Act (CEQA) Guidelines Section 15125, the baseline used for the analysis of environmental impacts under CEQA reflects the conditions present at the time the Notice of Preparation (NOP) for this Draft Environmental Impact Report (Draft EIR) was published. The potential impacts of the project are compared against the existing baseline conditions for each environmental resource.

Environmental Topics Addressed in this Draft EIR

The project is analyzed in this Draft EIR from the perspective of the following 16 environmental resource areas:

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

Format of the Environmental Analysis

Each resource area analyzed in this chapter includes the subsections summarized below.

Introduction

This subsection summarizes what will be discussed in the respective environmental topic section, states what informational documents are used as the basis for the section, and indicates what related comments, if any, were received during the EIR public scoping period.

Environmental Setting

This subsection describes the existing, baseline physical conditions of the project site and surroundings (e.g., existing land uses, transportation conditions, noise environment) with respect to each resource topic at the time the NOP was issued. Conditions are described in sufficient detail and breadth to allow a general understanding of the environmental impacts of the project.

Regulatory Framework

This subsection describes the relevant federal, state, and local regulatory requirements that are directly applicable to the environmental topic being analyzed.

Impacts and Mitigation Measures

This subsection evaluates the potential for the project to result in direct and indirect adverse impacts on the existing physical environment, with consideration of both short-term and long-term impacts. The analysis covers all phases of the project, including construction and operation. The significance thresholds for environmental impacts are defined at the beginning of this subsection, and the discussion of the approach to the analysis explains how the significance thresholds have been applied to evaluate the impacts of the project.

Indirect impacts are discussed only for those resources for which they have the potential to occur (e.g., population and housing, cultural resources, air quality, and biological resources). Both individual and cumulative impacts are analyzed. Project-level impacts could result from actions related to implementation of the project. Cumulative impacts could result from implementation of the project in combination with other cumulative projects in the study area. As discussed in “Cumulative Impacts,” below, the projects listed in Table 3-1, in conjunction with the project, are considered the cumulative scenario for the analysis of cumulative impacts.

Impacts are analyzed and the respective assessment and findings are included in this Draft EIR, applying the following levels of significance:

- **No Impact.** A conclusion of No Impact is reached if no potential exists for impacts or if the environmental resource does not occur within the project site, project vicinity, or the area of potential impacts.
- **Less than Significant Impact.** This determination applies if the impact does not exceed the defined significance criteria or would be eliminated or reduced to a less than significant level through compliance with existing local, state, and federal laws and regulations. No mitigation is required for impacts determined to be less than significant.
- **Less than Significant Impact with Mitigation.** This determination applies if the project would result in a significant impact, exceeding the established significance criteria, but feasible mitigation is available that would reduce the impact to a less than significant level.
- **Significant and Unavoidable Impact.** This determination applies if the project would result in an adverse impact that exceeds the established significance criteria, and no feasible mitigation is available to reduce the impact to a less than significant level. Therefore, the residual impact would be significant and unavoidable.
- **Significant and Unavoidable Impact with Mitigation.** This determination applies if, as is the case with the proposed project, the project would result in an adverse impact that exceeds the established significance criteria, and although feasible mitigation might lessen the impact, the residual impact would be significant, and, therefore, the impact would be unavoidable.

Impacts are defined in terms of their context and intensity. Context is related to the uniqueness of a resource; intensity refers to the severity of the impact. Where applicable, best management practices or project improvement measures, or both, are incorporated into the project to limit the potential for a significant impact. Where necessary, mitigation measures are identified for significant

impacts to limit the degree or lower the magnitude of the impact; rectify the impact by repairing, rehabilitating, or restoring the affected environment; or compensate for the impact by replacing or providing substitute resources or environments. These impacts conclude with a finding of Less than Significant Impact with Mitigation. Where no mitigation measures are necessary, relevant impacts are concluded to be Less than Significant or to have No Impact.

As part of the impact analysis, mitigation measures are identified, where feasible, for impacts considered significant or potentially significant consistent with CEQA Guidelines Section 15126.4(a)(1), which states that an EIR “shall describe feasible measures which could minimize significant adverse impacts.” CEQA requires that mitigation measures have an essential nexus and be roughly proportional to the significant impact identified in the EIR. The project sponsor is required to implement all identified mitigation measures identified in this chapter, and the lead agency (in this case, the City of Santa Rosa) is responsible for overseeing the project sponsor’s implementation of such mitigation measures.

Pursuant to CEQA Guidelines Section 15126.4(a)(1), mitigation measures are not required for environmental impacts that are found not to be significant. Therefore, for resource topics where this Draft EIR finds the physical environmental impact of the project to be less than significant, but for which the Santa Rosa Planning Department has identified measures that would further lessen the project’s already less than significant impacts, these measures have been identified as “improvement measures.” The project sponsor has indicated that if the project were approved, it would incorporate all improvement measures identified in this Draft EIR as part of the project.

Impacts are numbered and shown in bold type. The corresponding mitigation measures, where identified, are numbered and indented, and follow the impact statements. Impacts and mitigation measures are numbered consecutively within each topic and include an abbreviated reference to the impact section (e.g., “LAND” for Land Use and Planning). The following abbreviations are used for individual topics:

- Aesthetics (AES)
- Air Quality (AIR)
- Biological Resources (BIO)
- Cultural Resources and Tribal Cultural Resources (CUL)
- Geology and Soils (GEO)
- Greenhouse Gas Emissions and Energy (GHG)
- Hazards and Hazardous Materials (HAZ)
- Hydrology and Water Quality (HYD)
- Land Use and Planning (LAND)
- Noise (NOI)
- Population and Housing (POP)
- Public Services (PUB)
- Recreation (REC)
- Transportation and Traffic (TRANS)
- Utilities and Service Systems (UTIL)
- Wildfire (WILD)

Cumulative Impacts

The discussion of cumulative impacts in this subsection analyzes the cumulative impacts of the project, taken together with other past, present, and reasonably foreseeable future projects producing related impacts. The goal of this analysis is to determine whether the overall long-term impacts of all such projects would be cumulatively significant, and to determine whether the project itself would cause a “cumulatively considerable” incremental contribution to any such cumulatively significant impacts. To determine whether the overall long-term impacts of all such projects would be cumulatively significant, the analysis generally considers the following:

- The area in which impacts of the project would be experienced;
- The impacts of the project that are expected in the area;
- Other past, proposed, and reasonably foreseeable projects that have had or are expected to have impacts in the same area;
- The impacts or expected impacts of these other projects; and
- The overall impact that can be expected if the individual impacts from each project are allowed to accumulate.

“Cumulative impacts” refers to two or more individual impacts that, when considered together, are considerable, or that compound or increase other environmental impacts (CEQA Guidelines § 15355). Cumulative impacts can result from individually minor but collectively significant impacts taking place over time (40 Code of Federal Regulations [CFR] 1508.7). If the analysis determines that the potential exists for the project, taken together with other past, present, and reasonably foreseeable future projects, to result in a significant or adverse cumulative impact, the analysis then determines whether the project’s incremental contribution to any significant cumulative impact is itself significant (i.e., “cumulatively considerable”). The cumulative impact analysis for each individual resource topic is presented in each resource section of this chapter immediately after the description of the direct project impacts and identified mitigation measures.

Table 3-1 lists the relevant cumulative projects considered for the environmental analysis.

Table 3-1: Cumulative Projects

No.	Project	Characteristics	Project Development			
			Units	Square Footage	Location	Status
City of Santa Rosa						
1	Acacia East	Single-family homes	7	—	660 Acacia Lane	Approved
2	Saraceni Village	Single-family homes	8	—	705 Acacia Lane	Approved
3	Prospect Village II	Single-family homes	14	—	807 Acacia Lane	Constructed
4	Los Indios Subdivision	Single-family homes	12	—	225 Indian Creek Drive	Approved
5	Middle Rincon Subdivision	Single-family homes	6	—	117 Middle Rincon Road	Approved

No.	Project	Characteristics	Project Development			
			Units	Square Footage	Location	Status
6	Prospect Oaks	Attached single-family homes	32	—	4599 Sonoma Highway	Approved
7	Vista Gabrielle	Single-family homes	6	—	5150 Sonoma Highway	Approved
8	The Shops at Austin Creek	General retail development		43,200	5173 Sonoma Highway	Approved
9	Montgomery Park Apartments	Apartments	14	—	4527 Montgomery Drive	Approved
10	The Meadows at Oakmont	Single-family homes	39	—	6525 Oakmont Drive	Approved
Sonoma County						
11	Annadel Vineyards	Winery with 50,000 case production and tasting	—	—	6545 Sonoma Highway	Approved/ vested
12	Bordigioni Winery	Winery with 60,000 case production plus tasting and events	—	—	6687 Sonoma Highway	Approved/ vested
13	Sugar Loaf Winery	Winery with 125,000 case production plus tasting and events	—	—	6705 Sonoma Highway	Approved/ vested
14	Sonoma Country Inn	50-room resort hotel with 125-seat restaurant, winery with 10,000 case production and events, single-family homes	11	—	7915 and 7977 Sonoma Highway	Approved/ vested
15	Kenwood Winery	Expansion of existing winery	—	3,100	9592 Sonoma Highway	Application complete
16	Beltane Winery	Winery with 15,000 case production	—	—	11621 Sonoma Highway	Application incomplete
17	Ledson Winery	Winery with 50,000 case production plus tasting and events	—	—	7950 Sonoma Highway	Application incomplete
Total			149	46,300	—	
Sources: City of Santa Rosa; Sonoma County						

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3.1 - Aesthetics

3.1.1 - Introduction

This section describes the existing aesthetics, light, and glare conditions on the project site and in the project vicinity as well as the relevant regulatory framework. This section also evaluates the potential impacts related to aesthetics, light, and glare that could result from implementation of the project. Information included in this section is based, in part, on site reconnaissance and a photo inventory, as well as visual simulations (Appendix B) prepared specifically for the project, and the City of Santa Rosa General Plan 2035 and Environmental Impact Report (EIR). The following comments were received during the EIR scoping period related to aesthetics:

- Views from and visual character near Trione-Annadel State Park
- Lighting impacts to Trione-Annadel State Park
- Impacts to locally designated roadways
- Nighttime lighting and glare
- Building height impacts on views and visual character
- Project impact on surrounding neighborhoods rural visual character

3.1.2 - Environmental Setting

Visual Character

Santa Rosa Area

The City of Santa Rosa is located in the eastern portion of the Santa Rosa Plain, which spans the central and southern portions of Sonoma County. The Sonoma Mountains form the eastern backdrop of the City, with Taylor Mountain rising to an elevation of 1,401 feet above mean sea level, making it the most prominent topographical feature in the area. The west, north, and south sides of Santa Rosa are dominated by mostly flat relief and transition from urban to agricultural or rural uses at the City limits. The City of Santa Rosa is approximately 40 square miles in area and is the fifth-largest city in the nine-county San Francisco Bay Area. Santa Rosa is characterized by urban and suburban development, with the downtown area featuring urban development and historic structures.

The Rincon Valley is located in the eastern area of Santa Rosa on the urban rural fringe. The Sonoma Mountains and Trione-Annadel State Park form the southern boundary of the Rincon Valley, while Mount Hood and Sugarloaf Ridge frame the valley to the northeast. Horse pastures, vineyards, and residential uses are common along Sonoma Highway in the vicinity of the project site. Non-native grassland and valley oak woodland constitute the dominant natural vegetation.

Project Site

The project site is located in the eastern area of Santa Rosa in the urban rural fringe, at 6100–6160 Highway 12 (Sonoma Highway) and 300–425 Elnoka Lane. The project site consists of 17 Assessor's Parcel Numbers (APNs): 031-061-003, 031-050-014, 031-050-018, 031-050-019, 031-050-060, 031-050-061, 031-050-062, 031-050-063, 031-050-064, 031-050-065, 031-050-066, 031-050-067, 031-050-068, 031-050-069, 031-050-070, 031-050-071, and 031-050-072.

The project site is characterized by a ridgeline running southeast/northwest through the center of the site. The gradient of slopes ranges from approximately 10 percent to 25 percent, with slopes greater than 20 percent on the north and east side and moderate slopes of 10 percent on the west and south side. This ridgeline is defined in the City of Santa Rosa General Plan 2035 (General Plan 2035) as a protected ridgeline; it is shown in Figure 7-3 of the General Plan 2035 and is subject to General Plan 2035 goals and policies that protect ridgelines and limit ridgeline development. The elevation difference from the base of the ridge to the crest is approximately 70 to 100 feet with slopes on the north side that were created by previous grading.¹

Several creeks are located on the north, west, and southeast sides of the project site. The site contains four creeks that are considered jurisdictional and waters of the U.S., as shown in Exhibit 2-4:

1. Oakmont Creek runs southeast to northwest through the southeast portion of the project site and along the site's southern border. Oakmont Creek flows through the Oakmont Golf Course and neighborhood, then alongside Channel Drive and Trione-Annadel State Park until it enters Santa Rosa Creek near Melita Road.
2. Annadel Creek is a seasonal creek that runs south to north from Trione-Annadel State Park and empties into Oakmont Creek at the southeast corner of the project site.
3. The Main Fork of Melita Creek is located on the northwest corner of the project site and runs northeast to southwest, parallel to Melita Road. Melita Creek is a tributary of Oakmont Creek.
4. The South Fork of Melita Creek is a seasonal drainage running east to west in the northern portion of the project site (near Sonoma Highway) and joins the main fork of Melita Creek just south of Susan Road on the project site.

Both the South and Main Forks of Melita Creek are seasonal drainages for both the project site and Santa Rosa Creek. Most of the site consists of non-native grassland with small areas of valley oak woodland and riparian habitat, with the exception of the remains of three single-family homes atop the ridgeline. There are approximately 1,660 trees on-site, a majority of which line the creeks and riparian areas. Some rough grading and utility work was conducted on the project site as part of the proposed 1996/1997 Three Bridges/Pacific LifeCare project, which was approved but never completed. Photographs of the project site are provided in Exhibit 2-5a and Exhibit 2-5b and show the grassland and riparian areas, as well as views from the top of the ridgeline and from the Sonoma Highway. All existing structures on site and many of the trees surrounding the former homes were destroyed in the recent Glass Fire, which occurred in September and October 2020.

The project site is directly bordered on the northwest by single-family homes, on the northeast by Sonoma Highway and, on the southeast by Oakmont Village, an active adult community, and on the southwest by Channel Drive and Trione-Annadel State Park (Exhibit 2-2).

The project vicinity has a generally rural residential character and contains plant and animal life, including several native tree species as well as wetlands and aquatic life. Large lot single-family

¹ Reese and Associates. 2017. Soil Investigation Report. January 19.

residential uses are located west/northwest of the project site on Melita Road. North of the project site are large lot single-family residential uses on Susan Road. North/northeast of Sonoma Highway are large lot single-family homes in unincorporated county land. Oakmont Village, a master planned retirement community in Santa Rosa, is located east/southeast of the project site. Oakmont Village was developed in the 1960s and is home to more than 4,500 residents; it contains commercial retail stores, a market, two golf courses, several recreation centers, a post office, and a fire station. Channel Drive and Trione-Annadel State Park are located south and southwest of the project site. Along Channel Drive there are several large lot single-family homes situated between the project site and Trione-Annadel State Park. The Trione-Annadel State Park is 5,092 acres in area and encompasses the foothills southeast of Santa Rosa, including Bennett Mountain. The Park Entrance is located on Channel Drive. The Trione-Annadel State Park offers 35 miles of trails for running, hiking, mountain biking, and trail riding as well as recreational fishing areas.

Scenic Resources

Santa Rosa

The General Plan 2035 Urban Design Element identifies the qualities that make Santa Rosa a unique city. The major topics included are downtown, major city entries, neighborhood design, and hillside development. The General Plan 2035 Urban Design Element identifies the following scenic resources by major topic within the City:

- **Downtown.** Downtown Santa Rosa is generally bound by College Avenue on the north, Brookwood Avenue on the east, Santa Rosa Creek/Sonoma Avenue on the south, and the Northwestern Pacific Railroad tracks on the west. Mixed office and retail uses are focused within the downtown core, surrounding Old Courthouse Square, and extending both east and west along Third and Fourth Streets. Santa Rosa Plaza, an indoor mall, is located between Old Courthouse Square and Highway 101. Railroad Square, west of Highway 101, features retail, services, and hotel uses.
- **Major City Entries.** An east-west highway through western Santa Rosa, State Route 12 (SR-12) is also known as Sonoma Highway (a regional/arterial street) east of Farmers Lane. City entries occur at the Urban Growth Boundary in the east (North Melita Road intersection) and west (Fulton Road). Melita Road is a west-northwest curving road that runs from Sonoma Highway to Montgomery Drive, parallel to Channel Drive; it is a Scenic Road as designated in Section 5-3 of the General Plan 2035.
- **Neighborhood Design.** Santa Rosa's diverse neighborhoods offer an array of housing choices. Historic neighborhoods of Victorian cottages and California bungalows contrast dramatically with recent large-scale master planned developments. Some of the most fragile neighborhoods are the rural enclaves with farmhouses, fields, barns, and outbuildings. Urban Design policies attempt to preserve the special character of older neighborhoods while ensuring that new development establishes a sense of neighborhood.
- **Hillside Development.** Santa Rosa is framed by the Sonoma Mountain foothills that are prominently visible from many locations in the flatland areas of the City. The City wishes to retain these views and the natural character of the unbuilt hills by regulating development that might occur on them. The Sugarloaf Ridge is defined in the General Plan 2035 as a

protected ridgeline and shown in Figure 7-3 of the General Plan 2035. General Plan 2035 includes goals and policies that protect ridgelines and limit ridgeline development.

Project Site

The General Plan 2035 Urban Design Element identifies the following scenic resources in the vicinity of and within the project site:

- **State Route 12.** The major City entry and State Designated Scenic Highway, Sonoma Highway, is located adjacent to the northeastern boundary of the project site.
- **Melita Road.** Designated as a Scenic Road as its scenic characteristics consist of the many native and ornamental trees that line the roadway and give the sense of shelter and offer varied patterns in light and shadow as one travels along the corridor. The rural character is enhanced by the very narrow width and curves of the road. In addition, portions of the road parallel Santa Rosa Creek. The most scenic areas of the road lack urban street improvements. Most of the area has a very low-density rural character with relatively small homes on large lots. The road has a historic feel due to the rock walls and former stagecoach station. As another major City entry and Scenic Road, Melita Road forms the western border of the project site and would also act as an entrance point for the project site.
- **Los Alamos Road.** Designated as a Scenic Road for its scenic characteristics consisting of the picturesque views of hills and valleys.. Los Alamos Road is located north of the project site and provides distant views of the project site and surrounding areas.
- **Sonoma Mountain Foothills.** The Sonoma Mountains form the southern border of the project site and are the prominent visual feature along with Sugarloaf Ridge.
- **Sugarloaf Ridgeline.** The project site is characterized by the Sugarloaf Ridge running southeast-northwest through the center of the project site with steep slopes greater than 10-25 percent on the northern and eastern sides and more moderate slopes on the western and southern side. The elevation difference from the base of the hill to the crest of the ridge is approximately 70 to 100 feet² with nearly vertical slopes on the north side caused by previous grading.

Views

Field visits to the existing project site were conducted in May 2017 and August 2019 to observe and document the existing visual quality and character of the area. Exhibit 3.1-1 identifies and describes specific locations near the project site that provide a representative cross-section of visual images and information about the existing aesthetic conditions of the immediate surrounding area. These locations represent publicly accessible views that may be seen by a variety of observers in the area, ranging from motorists traveling along Sonoma Highway or local streets to pedestrians walking along urban sidewalks and bicyclists/hikers along recreational trails. As summarized in Table 3.1-1, there are various publicly accessible locations in the Santa Rosa area with views toward and/or through

² Reese and Associates Soil Investigation Report. Jan 19, 2017.

the project site. Exhibits 3.1-2 through 3.1-5 demonstrate the existing views from the identified points of view.

Table 3.1-1: Summary of View Point Locations for Existing Views

View point Number	View Description
1	Existing View from Sonoma Highway Looking SW toward Project Site Entrance
2	Existing View from Sonoma Highway Looking W toward Project Site
3	Existing View from Sonoma Highway Looking SW toward Project Site
4	Existing View from Melita Road Looking S toward Project Site
5	Existing View from Channel Drive Looking NE toward Project Site
6	Existing View from Channel Drive Looking N toward Project Site
7	Existing View from Intersection of Los Alamos Road and Arrigoni Court looking south toward the project site*
Note: * This view is not included on Exhibit 3.1-1. Source: FirstCarbon Solutions (FCS) 2018.	

Views 1, 2, and 3—Existing Views along Sonoma Highway towards Project Site

The view points along Sonoma Highway, a public roadway, forms the northern boundary of the project site, shown in Exhibit 3.1-2, Photographs A and B, and Exhibit 3.1-3, Photograph A. It is an Eligible State Scenic Highway where it borders the project site, and is an Officially Designated State Scenic Highway east of Danielli Avenue approximately 0.3 mile east of the project site.³ Sonoma Highway is also designated a Scenic Road in the General Plan 2035 from Farmers Lane to Calistoga Road, which is approximately 1.65 miles west of the project site.⁴ It is also identified as a City Entry on Figure 3-1 of the General Plan 2035. City entries are areas designated by the General Plan 2035 as visual entries into the City and provide design criteria for proposed development at each entry.

Large-parcel, rural residential uses are located north of Sonoma Highway permitting unblocked long-range existing views of the project site from public trails and parks along the roadway. Existing southwest views of the project site from these Sonoma Highway viewpoints consist of a small grassy area along the northern portion of the property, trees and vegetation along Melita Creek and the eastern perimeter of the site, and open grassy undeveloped land. Existing southerly views from Sonoma Highway of the southern portion of the project site are largely obstructed by the steep ridgeline, trees, and vegetation along the creek.

View 4—Existing Views from Melita Road towards Project Site

The view point along Melita Road, a public roadway, is located along the western project boundary and within a residential neighborhood consisting of single-family homes, shown in Exhibit 3.1-3,

³ California Department of Transportation. 2011. Officially Designated State Scenic Highways. Website: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/. Accessed June 9, 2017.

⁴ City of Santa Rosa General Plan 2035, page 5-8.

Photograph B. Existing westward views of the project site from Melita Road are partially obstructed by trees but consist primarily of open grass and vegetated areas.

Views 5 and 6—Existing Views from Channel Drive towards Project Site

The view points along Channel Drive along the southern border of the project site are shown in Exhibit 3.1-4 Photographs A and B. Oakmont Creek is visible to the public along Channel Drive and from Trione-Annadel State Park. Channel Drive is a public roadway, and Trione-Annadel State Park is a public park.

View 7—Existing Views from Los Alamos Road and Arrigoni Court towards the Project Site

The view point from the intersection of Los Alamos Road and Arrigoni Court, located approximately 0.5 miles north of the project site, is shown in Exhibit 3.1-5. The ridgeline and three rural residential structures formerly located on the project site are visible to the public in the far distance from this view point.

Other General Existing Views from Public Parks, Creeks, and Open Space Areas

Stone Bridge Road, Silver Creek Circle, Meadowridge Drive, and Meadowstone Drive are publicly accessible roads located east of the project site. The Oakmont Senior Community Open Space Area associated with Oakmont Village immediately adjoins the east and southeast of the project site and is accessible to the public via Oakmont Drive and Stone Bridge Road.

Several trees along the eastern boundary of the site largely obstruct existing western views of the project site from the Oakmont Senior Community Open Space Area. Existing western views of the project site from the Oakmont Senior Community Open Space Area are of a grassy site with oaks, other vegetation along Melita Creek, and the sloped ridgeline running through the project site. Existing northward views toward the project site are of oak trees and other vegetation on the banks of Oakmont Creek. A thick line of trees partially obstructs these northward views of the project site from along Channel Drive. Most of Trione-Annadel State Park is at a higher elevation, but existing northern views of the project site consisting of open grass and vegetated areas are either from a long distance or partially obstructed by vegetation at most vantage points.



Key

Views	Description
View 1	View from State Route 12 Looking SW toward Project Site Entrance
View 2	View from State Route 12 Looking W toward Project Site
View 3	View from State Route 12 Looking SW toward Project Site
View 4	View from Melita Road Looking S toward Project Site
View 5	View from Channel Drive Looking NE toward Project Site
View 6	View from Channel Drive Looking N toward Project Site

Source: FCS, 2018.

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A: View Point 1 Existing – View from State Route 12 Looking SW toward Project Site Entrance.



B: View Point 2 Existing – View from State Route 12 Looking W toward Project Site.

Source: The Digital Realm, May 2017.

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A: View Point 3 Existing – View from State Route 12 Looking SW toward Project Site.



B: View Point 4 Existing – View from Melita Road Looking S toward Project Site.

Source: The Digital Realm, May 2017.

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A: View Point 5 Existing – View from Channel Drive Looking NE toward Project Site.



B: View Point 6 Existing – View from Channel Drive Looking N toward Project Site.

Source: The Digital Realm, May 2017.

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View Point 7 – View from intersection of Los Alamos Road and Arrigoni Court looking S toward the Project Site.

Source: The Digital Realm, January 2019.

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Light and Glare

In this California Environmental Quality Act (CEQA) context, light is nighttime illumination that stimulates sight and makes things visible, and glare is difficulty seeing in the presence of bright light such as direct or reflected sunlight. The primary sources of nighttime light in the surrounding area are from vehicle headlights traveling along Sonoma Highway and other surrounding roadways. There are no streetlights along Sonoma Highway and minimal buildings with outdoor security lighting in the project vicinity.

There are no large reflective surfaces associated with buildings in the project vicinity that contribute daytime glare.

Project Site

Three single-family homes formerly existed on the project site, and were destroyed in the Glass Fire that occurred in September and October 2020; the remainder of the site is undeveloped, with the exception of certain prior infrastructure improvements that were constructed as part of the previously proposed 1996/1997 Three Bridges/Pacific LifeCare project, and which remain in place.

3.1.3 - Regulatory Framework

Federal

No federal plans, policies, regulations, or laws related to aesthetics are applicable to the project.

State

California Scenic Highway Program

The State Legislature created the California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans), in 1963. The purpose of the State Scenic Highway Program is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been officially designated. The status of a proposed State Scenic Highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

Title 24 of the California Code of Regulations Building Energy Efficiency Standards

California Building Code (California Code of Regulations [CCR], Title 24)—including Title 24, Part 6—includes Section 132 of the Building Energy Efficiency Standards, which regulates lighting characteristics, such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures of the 2000 Census. Areas can be designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban). Lighting requirements for dark and rural areas are stricter in order

to protect the areas from new sources of light pollution and light trespass. The majority of the City of Santa Rosa, including the project site, falls under the “urban” standard.

Local

City of Santa Rosa General Plan 2035

The City of Santa Rosa General Plan 2035 establishes the following goals and policies related to aesthetics, light, and glare:

Urban Design

Image and Character

- **UD-A: Preserve and enhance Santa Rosa’s scenic character, including its natural waterways, hillsides, and distinctive districts.**
- **UD-A-1:** Maintain view corridors to natural ridgelines and landmarks, such as Taylor Mountain and Bennett Mountain.
- **UD-A-2:** Strengthen and emphasize community focal points, visual landmarks, and features that contribute to the identity of Santa Rosa using design concepts and standards implemented through the Zoning Code, Design Guidelines, Preservation District Plans, Scenic Roads policies, the Downtown Station Area Specific Plan, and the Citywide Creek Master Plan.
- **UD-A-4:** In new developments, minimize overall grading by limiting site grading to the minimum necessary for driveways, parking areas, and understructure areas.
- **UD-A-5:** Require superior site and architectural design of new development projects to improve visual quality in the city.
- **UD-A-8:** Maintain hillsides in the city as a scenic backdrop to urban development.
- **UD-A-9:** Prohibit development on hillsides and ridgelines where structures would interrupt the skyline.
- **UD-A-10:** Relate landscape design to the natural setting. Require that graded areas within new development be revegetated.
- **UD-A-11:** Require structures within new developments to step with the slope of the site. Absorb site topography through use of split-level designs.

City Entries and Corridors

- **UD-C: Enhance and strengthen the visual quality of major entry routes into the city, as well as major corridors that link neighborhoods with downtown.**
- **UD-C-6:** Require that buildings, sound walls, and other structures highly visible from Highway 101 or Highway 12 and adjoining neighborhoods be designed to enhance and improve scenic character.

Neighborhood Design

- **UD-F: Maintain and enhance the diverse character of Santa Rosa’s neighborhoods. Promote the creation of neighborhoods—not subdivisions—in areas of new development.**
- **UD-F-2:** Protect natural topographic features such as hillsides, ridgelines and mature trees and stands of trees. Minimize grading of natural contours in new development.
- **UD-F-4:** Provide visual interest in building, site, and landscape design that avoids the sense of a monotonous tract development.

Visual interest can be created in many ways: varied massing and roof types, floor plans, detailed planting design, or color and materials. Overall harmony should be maintained while providing smaller scale variety.

Hillside Development

- **UD-H: Design hillside development to be sensitive to existing terrain, views, and significant natural landforms or features.**
- **UD-H-1:** Minimize the visual prominence of hillside development by taking advantage of existing site features for screening, such as tree clusters, depressions in topography, setback hillside plateau areas, and other natural features.
- **UD-H-2:** Align and construct streets along natural grades. Minimize visibility of streets from other areas within the city.
- **UD-H-3:** Prohibit grading of slopes that are greater than 25 percent. During review of development plans, ensure that necessary grading respects significant natural features and visually blends with adjacent properties.

Extensive grading of hillsides has the potential to destroy their irregular character and increase risk of geologic and landslide hazards. Encourage developers to grade only building pads, and to blend the graded area with adjacent hillside properties.

- **UD-H-4:** Avoid large areas of flat pads in hillside areas. Instead, building forms should be “stepped” to conform to site topography.
- **UD-H-5:** Allow creative lot layouts such as clustering, flexible setbacks, or flag lots if such approaches help to preserve contours and other natural features.
- **UD-H-6:** Minimize vegetation removal in hillside areas, and preserve large trees that partially screen development or help blend new development into views.
- **UD-I: Respect natural features in the design and construction of hillside development.**
- **UD-I-1:** Require mapping of all natural features as part of development applications, including landforms, mature tree stands, rock outcroppings, creek ways, and ridgelines. During development review, ensure that site layout is sensitive to such mapped features.
- **UD-I-2:** Encourage architectural design that reflects the undulating forms of the hillside setting, such as breaking building masses and rooflines into several smaller components.
- **UD-I-3:** Reflect the predominant colors and textures within the surrounding landscape in selection of building materials for hillside development. Roof colors should tend toward earth tones, so that they are less visible from adjacent or upslope properties. Allow darker roofs when they meet cool roof standards.
- **UD-I-4:** Use irregular planting on graded slopes to achieve a natural appearance. Maximize water conservation, fire resistance, and erosion control in landscape design through use of sturdy, native species.

Santa Rosa Design Guidelines

The Design Guidelines, adopted in September 2002,⁵ provide a clear set of design policies that set forth the design criteria with which the City staff, boards and commissions, and the City Council will use to evaluate project proposals. The applicable guidelines must be followed in order for projects

⁵ Section 2, Core Area contains new mid-rise policies that were adopted by City Council on October 4, 2005.

to receive discretionary approvals. These guidelines apply to all projects that require design review. Some allowance is made for creativity, but proposed designs are expected to reflect an equal or higher standard of design quality than those provided in the guidelines. Passages from the Design Guidelines that are of particular importance to the project pertain to sections 3.1 Single-Family Residential, 3.2 Multi-family Residential development, and 4.6 City Entries—specifically, Highway 12 (Sonoma Highway).

Zoning Code

The project site is zoned Planned District (PD) 93-002-RC and Multi-family Residential (R)-3-18-RC. Applicable sections of the Zoning Code and these zoning designations are described below in more detail. In addition, Exhibit 2-6 as shown in Chapter 2, Project Description, demonstrates which areas of the project site are zoned PD and R-3-18.

R-3-18 Multi-family Residential District

As summarized in Table 3.1-2, Chapter 20-22.050 establishes requirements for new development and alterations to existing land uses, structures, and site development within the residential zoning districts.

Table 3.1-2: R-3-18 District Development Standards

Development Feature	Requirement
Setbacks, primary structures (1)	Minimum setbacks required. See Section 20-30.110 for setback measurement instructions, and exceptions to these requirements.
Front	10 feet provided; a 1-story portion may project up to 6 feet into the setback and required stairs and landings may project up to 10 feet into the setback.
Side—Interior 1-story portions	—
Attached and detached except when: Abutting an R-3	5 feet 0 feet
Side-Interior 2-story portions	—
Attached and detached except when: Abutting an R-3 Abutting a nonresidential district	10 feet 0 feet 7.5 feet
Side—Interior 3-story portions (or more)	—
Attached and detached except when: Abutting an R-3 Abutting a nonresidential district	15 feet 0 feet 10 feet
Side-corner	10 feet provided; a 1-story portion may project up to 6 feet into the setback and required stairs and landings may project up to 10 feet into the setback.
Rear	—
Attached and detached except when: Abutting an R-3	15 feet 0 feet

Development Feature	Requirement
Abutting an RR or R-1	20 feet
Garage/carport front	A garage/carport entrance facing a public or private street shall be set back 19 feet from the rear of the sidewalk, street property line, or street plan line, whichever is greater. A garage facing a public or private alley or driveway shall be set back 3 to 5 feet, or 19 feet from the alley property line, back of curb, sidewalk, or pavement edge, whichever is greater.
Setbacks, accessory structures (1)	Minimum setbacks for accessory structures. See also Section 20-30.110 for exceptions and Section 20-42.030 (Accessory Uses and Structures).
Front	20 feet
Side-Interior	5 feet
Side-Corner	15 feet
Rear	5 feet
Alley	3 to 5 feet, or 19 feet when used for parking with direct access to alley.
Building Separation	See Sections 20-30.110 (Setback Requirements and Exceptions) and 20-42.030 (Accessory Structures and Uses).
Lot Coverage	Maximum percentage of total lot area that may be covered by structures. See Section 20-22.040 (Residential District Subdivision and Density Standards).
Maximum Coverage	60 percent
Height limit	Maximum allowable height of structures. See Section 20-30.070 (Height Limits and Exceptions) for height measurement requirements, and height limit exceptions.
Primary Structures	45 feet
Accessory Structures	16 feet
Fences, walls, and hedges	No fence, wall, or hedge shall exceed a height of 3 feet in any required front or corner side setback, or 6 feet in any other location on the lot. See Section 20-30.050 (Fences, Walls, and Hedges).
Note: Source: City of Santa Rosa Zoning Ordinance, June 2017.	

PD (Planned Development) Zoning District

The purpose of the PD District is to allow flexibility in site design as long as the use and density are consistent with the General Plan. Section 20.26.060 establishes requirements for rezoning a property into a PD Zoning District as well as making modifications to an approved Policy Statement and Development Plan for an existing planned development. This section sets forth minimum site acreage as well as application requirements, which include a Project Description, a site features map, infrastructure, a Policy Statement, and a Development Plan. The current Policy Statement requires a

Conditional Use Permit to revise the Policy Statement; however, pursuant to Zoning Code Chapter 20-26, a request to modify, change or revise any approved Development Plan and/or Policy Statement shall be processed in the same manner as any other zone change application (Rezoning). Accordingly, the project includes a Rezoning application to allow changes to the previously approved Policy Statement and Development Plan. In addition, the project includes rezoning of the R-3-18 parcel to include it into the PD District No. 93-002.

Pursuant to Zoning Code Section 20-26.060, the Design Review Board must review the Policy Statement and Development Plan and make recommendations prior to the Planning Commission and/or City Council review and decision when establishing a new Planned Development. The purpose of this review is to hear recommendations applicable to the development standards proposed in the policy statement. The Elnoka CCRC proposes a significant amount of changes to the previously approved policy statement for the development site. Accordingly, the proposed modifications to the Elnoka CCRC Policy Statement and corresponding Development Plan shall require input from the Design Review Board prior to Planning Commission review. Once adopted, all proposed development within a PD district must comply with the approved Policy Statement and Development Plan. Future modifications can be authorized pursuant to current Zoning Code requirements.

Creekside Development

Chapter 20.30.040 of the City Code establishes requirements for development near a creek. This section requires minimum setbacks from waterways for new structures, to provide reasonable protection to owners of riparian property and the public from the hazards of stream bank failures and flooding, while allowing owners of property near waterways reasonable use of and the opportunity to improve their properties consistent with general safety. Requirements include a setback area on each side of a natural or modified natural waterway of 50 feet from the top of the highest bank on that side of the waterway, as determined by the Director. No structure—including buildings of any type; swimming pools, including prefabricated swimming pools; driveways; streets; parking areas; patios; platforms; decks; fences; liquid storage tanks; mobile homes; broken concrete rubble; earth fill or other structural debris fill; or retaining walls—are allowed within the setback. However, bridges for motor vehicles, pedestrians, and/or bicycles, and/or public utility infrastructure may cross through a waterway setback area and over or under its channel, provided that the installation has received all required approvals from the City and any other public agencies with jurisdiction over aspects of the proposed creekside development.

Outdoor Lighting

Chapter 20-30.080 of the City Code establishes standards for lighting. Standards include a maximum height of 14 feet for outdoor lighting. Outdoor lighting shall utilize energy-efficient fixtures/lamps. Light fixtures shall be shielded or recessed to reduce light spillage onto adjoining properties. Each light fixture shall be directed downward and away from adjoining properties and public rights-of-way, so that no on-site light fixture directly illuminates an area off the site. No lighting on private property is permitted to produce an illumination level greater than 1 foot-candle on any property within a residential zoning district except on the site of the light source.

Hillside Development

Chapter 20-32.050 of the City Code sets forth site planning and development standards for hillside development. Each structure shall be located in the most accessible, least visually prominent, most geologically stable, portion or portions of the site, and at the lowest feasible elevation. Structures shall also be aligned with the natural contours of the site to the maximum extent feasible. Siting structures in the least prominent locations is especially important on open hillsides where the high visibility of construction should be minimized by placing structures so that they will be screened by existing vegetation, depressions in topography, or other natural features. Hillside Development Permits require that the development must comply with the Santa Rosa Design Guidelines and the General Plan. As part of the process of receiving a Hillside Development Permit, the review authority must make the following findings:

- Site planning minimizes the visual prominence of hillside development by taking advantage of existing site features for screening, including tree clusters, depressions in topography, setback hillside plateau areas, and other natural features;
- Site development minimizes alteration of topography, drainage patterns, and vegetation on land with slopes of 10 percent or more;
- Site development does not alter slopes of greater than 25 percent, except in compliance with Section 20-32.020.B (Applicability—Limitations on hillside development);
- Project grading respects natural features and visually blends with adjacent properties;
- Building pad location, design, and construction avoids large areas of flat pads, and building forms are instead “stepped” to conform to site topography;
- The proposed project complies with the City’s Design Guidelines;
- The proposed project complies with the requirements of this Chapter and all other applicable provisions of this Zoning Code;
- The proposed project is consistent with the General Plan and any applicable specific plan; and
- The establishment, maintenance, or operation of the use will not, under the circumstances of the particular case, be detrimental to the public health, safety, or general welfare.

Landscaping

Chapter 20-34 of the City Code establishes landscape standards to mitigate the effects of urbanization on the environment and to provide for an aesthetically pleasing urban setting. It is the intent of this Chapter to establish a measure of consistency in landscaping for new projects as well as providing a mechanism to require updating and upgrading of existing landscaping in existing developments when improvements are proposed. It is also the intent of this Chapter to encourage optimum use of drought-tolerant plant materials in conjunction with water-conserving automatic irrigation systems.

Chapter 17-24 of the City Code establishes a Tree Preservation Ordinance regarding tree removal and replacement. It is the intent of this Chapter to regulate the removal and replacement of large and/or significant trees.

Signage

Chapter 20-38 of the City Code establishes signage regulations for all zoning districts for a variety of purposes, including preservation and enhancement of the aesthetic quality of the community. Property owners must obtain sign permits for all signs to ensure compliance with the Zoning Code. In residential zoning districts, freestanding signs are limited to a maximum height of 6 feet. Walled signs must be located below the roof of the building and must be no more than 32 square feet.

3.1.4 - Impacts and Mitigation Measures**Significance Criteria**

According to CEQA Guidelines Appendix G, to determine whether impacts related to aesthetics are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Have a substantial adverse effect on a scenic vista?
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway?
- c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Approach to Analysis

This analysis provides a discussion of the visual impacts associated with the project. Several variables affect the degree of visibility, visual contrast, and ultimately project impacts: (1) scale and size of facilities, (2) viewer types and activities, (3) distance and viewing angle, and (4) influences of adjacent scenery or land uses. Viewer response and sensitivity vary depending on viewer attitudes and expectations. Viewer sensitivity is distinguished among project viewers in identified scenic corridors and from publicly accessible recreational and plaza areas. Recreational areas and scenic corridors are considered to have relatively high sensitivity.

As part of this analysis, various areas in Santa Rosa and within unincorporated Sonoma County lands were screened as potential public view locations based on whether the existing project site is visible from these locations and the degree to which viewers at those locations would be sensitive to proposed physical changes at the project site during the proposed construction and operational periods. A set of locations that constitute a representative cross-section of views experienced by a representative cross section of observers was chosen for the analysis. Views from these locations were photographed and are included in this Draft EIR to illustrate existing conditions. The City also prepared visual simulations that depict the proposed project from various vantage points to aid in the evaluation of potential impacts. Project design drawings and information about height and massing were also relied upon to identify whether or when the proposed structures would result in

visual impacts. The General Plan 2035 and the City Code were also evaluated to determine applicable policies and design requirements for the project. The project's site plan was evaluated to determine if the project would comply with applicable provisions of the City of Santa Rosa design guidelines and policies in the General Plan 2035 and Zoning Ordinance.

Impact Evaluation

Scenic Vistas

Impact AES-1: The proposed project would have a substantial adverse effect on a scenic vista as viewed from Los Alamos Road, designated as a Scenic Drive.

A significant impact would occur if the project would have a substantial adverse effect on a scenic vista⁶ as defined and identified in the General Plan 2035. The General Plan, in lieu of identifying scenic vistas, identifies scenic roads as they also afford publicly available views. In the General Plan 2035, Section 5-3, Melita Road and Los Alamos Road are designated as scenic roads and provide the public with views of the Sonoma Mountains, Trione-Annadel State Park and the surrounding large-lot and rural residential areas. Furthermore, the prominent ridgeline that runs through the center of the site is identified in Figure 7-3 of General Plan 2035. To support the evaluation of potential impacts to scenic roads and associated views, the City prepared visual simulations that depict the proposed project from various vantage points.

Zoning Code Section 20-28-050 combining District is intended to enhance and preserve the natural and constructed features that contribute to the character of scenic roads. Scenic roads direct views to areas of exceptional beauty, natural resources or landmarks, or historic or cultural interest. The section of Melita Road that borders the project site has intermittent views of the Sonoma Mountains and Trione-Annadel State Park. The project would include the construction of a project access drive from Melita Road. On-site structures would be set back from this project access point by approximately 70 feet from all perimeter property lines. Exhibit 3.1-3 and Exhibit 3.1-6 show the existing and proposed view of the project site from the proposed accessed point on Melita Road. As shown, the project would not block or detract from views of the Sonoma Mountains or Trione-Annadel State Park at the access point on Melita Road.

Due to its elevated location, views from Los Alamos Road provide panoramas of the Rincon Valley where the project is located. Views of the project site, as seen from the Los Alamos Road and Arrigoni Court intersection (Exhibit 3.1-5), contain the General Plan-identified ridgeline on the project site. Construction of the project would alter views of the ridgeline, a prominent part of the scenic vista, to a more urban, residential development, with the addition of single-family and multi-family structures. Views from this location also include views of the Sonoma Mountains and Trione-Annadel State Park, for which the development of the project would disrupt.

General Plan 2035 includes provisions to prohibit development on hillsides and ridgelines where structures would interrupt the skyline and/or involve the alteration of slopes greater than 25 percent. The ridgeline on the project site contains slopes greater than 25 percent and the Sonoma Mountains form the backdrop for the project site. As a result, the project requires and includes an application for

⁶ A scenic vista is defined as a view point that provides expansive views of a highly valued landscape for the benefit of the general public.

a Hillside Development Permit. The only development that would occur at the top of the ridgeline would be single-story cottages that have been designed to have as little visual impact as feasible and to otherwise meet the criteria to obtain a Hillside Development Permit pursuant to Section 20-32.050 of the Zoning Code. As can be seen in Exhibits 3.1-6 through 3.1-9, the project would not construct structures that would interrupt the mountain skyline located beyond the project site. As such, this project would comply with General Plan 2035 Policy UD-A-8, and UD-A-9 by maintaining the Sonoma Mountains as a visual backdrop; as well as comply with General Plan 2035 Goal UD-H by ensuring that only single-story cottages would be built at the top of the ridgeline in order to be sensitive to existing terrain, views, and significant natural landforms and features. Furthermore, the extent, scale, and massing of all on-site buildings would be designed in a way that allows the natural hillside and creek side backdrops to be expressed throughout the development. The site plan would respect the natural features and slopes of the site and integrate trees, creeks, and riparian areas into the design. The project's placement of homes and circulation system along the natural contours of the site would ensure the natural curvature of the hill is maintained. Proposed landscaping, trees, and shrubs would enhance screening throughout the project site and minimize the visual impacts of the buildings. Over 58 percent of the site would be left as natural open space and landscaped area. Over 75 percent of the existing trees on-site would also remain in place⁷. Combined, these design features would help to reduce the visual impacts to the project site as viewed from Los Alamos Road.

The visual impacts of developing the project's maximum 676 residential units and related improvements and amenities on approximately 68.73 acres would result in a visually dense, and therefore, inconsistent visual character given the rural and lower density residential nature of surrounding areas, thereby adversely affecting the scenic vista as viewed from surrounding scenic roads. As such, impacts to scenic vistas would be significant and unavoidable. Due to site configuration constraints, as well as the nature and scope of the project being proposed no feasible mitigation is available for the project that would reduce this impact to less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

No mitigation is available.

Level of Significance After Mitigation

Significant and unavoidable impact.

⁷ The full effect of the fire as it relates to trees has yet to be determined; some trees may regenerate after appearing to sustain extensive damage.

Scenic Highways

Impact AES-2: **The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway.**

A significant impact would occur if the project substantially damages scenic resources as seen from a designated scenic highway. The portion of the Sonoma Highway bordering the project site is designated an Eligible State Scenic Highway. In addition, at approximately 0.3 mile to the east of the project site, Sonoma Highway is an Officially Designated State Scenic Highway. General Plan 2035 identifies State Scenic Highways in Section 3, Urban Design.

Scenic resources that can be viewed from the Sonoma Highway in the vicinity of the project site consist of the Oakmont Senior Community Open Space Area, Sonoma Mountains, Trione-Annadel State Park, Sugarloaf Ridge, and Hood Mountain. Implementation of the project would result in development of a primarily undeveloped site. As shown in Exhibit 3.1-6, Photograph A, the main entrance and visible buildings into the project site from the Sonoma Highway would not block views of scenic resources as seen from Sonoma Highway, including the Sonoma Mountains within Trione-Annadel State Park. Additionally, Exhibit 3.1-7, Photograph A shows another view angle of the project's visual impact looking southwest from Sonoma Highway at the northeast corner. Landscaping, setbacks, and preserved trees would shield a majority of the development from view of the Sonoma Highway.

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A: View Point 1 Proposed Project– View from State Route 12 Looking SW toward Project Site Entrance.



B: View Point 2 Proposed Project – View from State Route 12 Looking W toward Project Site.

Source: The Digital Realm, May 2017.

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A: View Point 3 Proposed Project – View from State Route 12 Looking SW toward Project Site.



B: View Point 4 Proposed Project – View from Melita Road Looking S toward Project Site.

Source: The Digital Realm, May 2017.

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A: View Point 5 Proposed Project – View from Channel Drive Looking NE toward Project Site.



B: View Point 6 Proposed Project – View from Channel Drive Looking N toward Project Site.

Source: The Digital Realm, May 2017.

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View Point 7 Proposed Project – View from intersection of Los Alamos Road and Arrigoni Court looking south toward the Project Site.

Source: The Digital Realm, January 2019.

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In addition, the extent, scale, and massing of all on-site buildings would be designed in a way that allows the natural hillside and creek side backdrops to be expressed throughout the development. The site plan would respect the natural features and slopes of the site and would integrate existing trees, creeks, and riparian areas into the design. Proposed landscaping, trees, and shrubs would enhance screening throughout the project site and would minimize the visual impacts of the buildings and homes. Over 58 percent of the site would be left as natural open space and landscaped area. Over 75 percent of the trees on-site would also remain in place. Combined, these design features would help to reduce the visual changes to the project site as viewed from Los Alamos Road.

Collectively, these characteristics would ensure that the project maintains views of the mountains and other identified scenic resources and provides high-quality design and visual character from the Sonoma Highway scenic route. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Visual Character

Impact AES-3:	The proposed project would be consistent with applicable zoning and other regulations governing scenic quality but would substantially degrade the existing visual character or quality of public views of the site from Channel Drive, and other surrounding areas.
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Per CEQA statute Section 21071, an urbanized area includes an incorporated city that has a population of at least 100,000 persons. The project site is located within the City of Santa Rosa, which is consistent with this definition of an urbanized area, in that it has a population of 177,017 as of January 1, 2019.⁸ However, it is noted that the project would be built in an area on the urban-rural fringe, with unincorporated lands located directly adjacent or close to both the north and south of the project site. The unincorporated lands include undeveloped areas within Trione-Annadel State Park to the south and large-lot, rural residential land uses to the north beyond which are unincorporated and undeveloped lands. For purposes of a conservative analysis, the Draft EIR utilized both the urban and non-urban portions of the threshold to reflect the location of site on the urban/rural fringe.

⁸ California Department of Finance. 2019. E-1 Population Estimates for Cities, Counties, and the State—January 1, 2018 and 2019. Website: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>.

The main visual features of the site and surrounding areas that can be seen from public viewpoints are the on-site ridgeline and views of the off-site Sonoma Mountains (including those in Trione-Annadel State Park), and Hood Mountain.

The areas surrounding the project site to the north and west have a rural residential character. Large-lot single-family residential uses are located west/northwest of the project site on Melita Road. North of the project site are large-lot single-family residential uses on Susan Road. North/northeast of Sonoma Highway are large-lot single-family homes in unincorporated County land. Areas to the south of the project site are primarily undeveloped, including Channel Drive, two large lot single-family residences, and Trione-Annadel State Park. The State Park covers 5,092 acres and encompasses the foothills southeast of Santa Rosa, including Bennett Mountain. Channel Drive provides access to Trione-Annadel State Park from Melita Road. The area to the east of the project site consists of Oakmont Village, a master planned retirement community in Santa Rosa with almost 4,500 residents. Areas within Oakmont Village, directly adjacent to the project site consist of single-family residential land uses consistent with the General Plan land use designation of Low Density (2-8 units per acre). Commercial retail stores, a market, two golf courses, several recreation centers, a post office, and a fire station are also located within Oakmont Village, but approximately 1 mile to the east of the project site. Areas to the north and south of Oakmont Village are unincorporated and rural in character.

The project would construct a mix of community care apartment buildings and cottages along with related improvements and amenities throughout the site, resulting in an alteration of the physical surroundings. New buildings would be visible from some publicly accessible locations. The following sections describe the project's impact in relation to the General Plan 2035 and Santa Rosa City Code, views from publicly accessible roadways, and views from public parks, creeks, and open space areas.

General Plan 2035 and Santa Rosa City Code/Zoning Code

Neighboring areas are designated rural residential by the Santa Rosa City Code. The single-story community care cottages would visually fit with some of the neighboring areas. The three-story apartment buildings proposed in the Very Low Density Residential (VLR) designated areas would be consistent with the General Plan in that the VLR land use classification does permit multi-family dwellings. However, they would be visually different in massing compared to the surrounding area. Also, the project is consistent with the City policy of permitting Community Care Facilities in all residential land use categories in the General Plan. Since Community Care facilities are evaluated in terms of intensity of use across the entire 68-acre project site, not density, the project is consistent with the applicable aspects of the General Plan.

In addition, these portions of the project site are designated a PD Zoning District. Pursuant to the existing Policy Statement, all development within this PD district must comply with the approved Policy Statement and Development Plan (attached shown in Exhibit 3.9-2 and Appendix H). Furthermore, Chapter 20-32.050 of the Santa Rosa City Code sets standards for hillside development. The project would comply with these standards by siting structures in the least prominent locations and using trees, vegetation, and depressions in topography as natural screening. Additionally, the project would comply with applicable General Plan 2035 setbacks and height requirements. Specifically, the apartment buildings would be two and three stories with a maximum

height of 43 feet, and the Community Center and Assisted Living buildings would be two to three stories with a maximum height of 49 feet. In addition, setbacks of 70 feet from all perimeter property lines and approximately 100 feet from Sonoma Highway would be implemented. The project would comply with applicable provisions of Chapter 20-34 of the City Code by establishing landscape standards to help mitigate the effects of urbanization. The project would preserve a significant number of trees (approximately 75 percent of existing on-site trees would remain); would plant a significant number of new trees in accordance with the City's Tree Preservation Ordinance; and would use drought-tolerant landscaping to the extent feasible and integrate natural space to provide an aesthetically pleasing urban setting in compliance with the City's current Water Efficient Landscape Ordinance. Also, approximately 24 percent of the site would be retained as natural open space and an additional approximately 34 percent of the site would be maintained as landscaped space. Adherence to these project design features, development standards, and design guidelines would ensure consistency with the applicable provisions of Urban Design Element of Santa Rosa's 2035 General Plan. However, when viewed from afar, the project's visually dense development, despite the foregoing project design features, as compared to surrounding "non-urbanized" areas exhibit a significant change in character compared to existing site conditions and surrounding visual character.

View 1—View from Sonoma Highway Looking Southwest toward Project Site

Exhibit 3.1-6, Photograph A, depicts a publicly accessible view of the proposed main entrance of the project, as seen by motorists and pedestrians traveling along Sonoma Highway, looking southwest toward the project site. As shown, the front entrance is visible as well as a portion of Building A. The landscaping at the entrance to the project includes drought tolerant low-lying shrubs as well as trees, which would help soften the appearance of Building A. The hillside in the existing view would still be visible from Sonoma Highway. Though the project would be visible from this vantage point, it would be screened by vegetation to the extent feasible, would not dominate the view and would still afford views of the hillside. Therefore, impacts to this view would be less than significant and the project would not substantially degrade the existing visual character or quality of the site and its surroundings in this regard.

View 2—View from Sonoma Highway Looking West toward Project Site

Exhibit 3.1-6, Photograph B depicts a publicly accessible view of the project, as seen by motorists and pedestrians traveling along Sonoma Highway, looking west toward the project site. A partial view of the employee housing would be visible from this vantage point. Some of the vegetation along Sonoma Highway would be removed but would be replaced with landscaping that would consist of drought tolerant low-lying shrubs as well as trees, which would help soften the appearance of the employee housing. Though the project would be visible from this vantage point, it would not dominate the view and would still afford views of the hillside. Therefore, impacts to this view would be less than significant and the project would not substantially degrade the existing visual character or quality of the site and its surroundings in this regard.

View 3—View from Sonoma Highway Looking Southwest toward Project Site

Exhibit 3.1-7, Photograph A depicts a publicly accessible view of the project, as seen by motorists and pedestrians traveling along Sonoma Highway looking southwest toward the project site. A

partial view of the top of the Care Center would be visible. As depicted, the existing vegetation would remain in place and would obscure most of the Care Center building. Since only a small portion of the Care Center would be visible, this change would not dominate the view point. Impacts to this view would be less than significant and the project would not substantially degrade the existing visual character or quality of the site and its surroundings in this regard.

View 4—View from Melita Road Looking South toward Project Site

Exhibit 3.1-7, Photograph B depicts a publicly accessible view of the project, as seen by motorists and pedestrians traveling along Melita Road looking south toward the project site. The existing view depicts the start of a ridgeline located on-site, along with trees. The proposed view depicts a gate with views of single-family residential homes on the ridgeline at buildout. From this view point, most of the natural vegetation and topography are maintained and single-family homes would be visible. The project site would appear similar to the surrounding development and would maintain the rural residential setting. Therefore, impacts to this view would be less than significant and the project would not substantially degrade the existing visual character or quality of the site and its surroundings in this regard.

View 5—View from Channel Drive Looking Northeast toward Project Site

Exhibit 3.1-8, Photograph A depicts a publicly accessible view of the project, as seen by motorists, cyclists, and pedestrians traveling along Channel Drive, looking northeast toward the project site. Views of the single-story cottages and a 3-story apartment building would be visible from this view point, but would be limited due to design features that use existing and proposed vegetation and trees to screen development to the extent feasible. Furthermore, there is significant existing vegetation screening views of the project site as seen from Channel Drive. However, Channel Drive is an entrance to the adjacent State Park. Views of the site from Channel Drive would change from a wooded area and hillside, to that of a neighborhood with apartments, albeit screened somewhat from view by vegetation. As such, the visual character of the area as seen from this view point is adversely affected and impacts would be significant. No feasible mitigation is available for the proposed project that would reduce this impact to less than significant due to site configuration constraints as well as the nature and scope of the project being proposed. Note that consideration of a reduced density alternative, which may reduce the severity of this impact, is considered in Section 5, Alternatives, of this Draft EIR.

View 6—View from Channel Drive Looking North toward Project Site

Exhibit 3.1-8, Photograph B depicts a publicly accessible view of the project, as seen by motorists and pedestrians traveling east, looking north towards the project site. The tops of Buildings P and H would barely be visible because of design features that use existing vegetation and natural topography to screen development to the extent feasible. The project would not be dominant in the view. Therefore, impacts to this view would be less than significant and the project would not substantially degrade the existing visual character or quality of the site and its surroundings in this regard.

View 7—View from Los Alamos Road and Arrigoni Court towards the Project Site

Exhibit 3.1-9 depicts a publicly accessible view of the project as seen by motorists and pedestrians traveling south on Los Alamos Road. The top and upper facade of Buildings G, H, J, and K (comprised

of 2- and 3-story buildings) as well as several cottages located along the top of the on-site ridgeline are visible. Off-site trees only partially and intermittently obscure these views. Views of the hillside and ridgeline in Trione-Annadel State Park further to the south are not obstructed. The 2- and 3-story buildings stand out significantly compared to existing single-family residential buildings in this view due to their height and quantity. Views of the cottages are also prominent due to their location at the top of the on-site ridgeline and their quantity.

The project would minimize impacts to the extent feasible through thoughtful, high quality design elements; the incorporation of significant landscaping; the preservation of a significant number of trees; inclusion of appropriate setbacks; and retaining a significant amount of natural open space. However, the project site is a prominent portion of the overall middle-distance view as seen from this viewpoint and is inconsistent with the character of the surrounding views of rural residential uses. As such, the visual character of the area as seen from this view point is adversely affected and impacts would be significant. No feasible mitigation is available for the proposed project that would reduce this impact to less than significant due to site configuration constraints as well as the nature and scope of the project being proposed. Note that consideration of a reduced density alternative, which may reduce the severity of this impact, is considered in Section 5, Alternatives, of this Draft EIR.

Other General Views from Public Parks, Creeks, and Open Space Areas

Views of the project site from the Oakmont Senior Community Open Space Area are of a grassy site with oaks, other vegetation along Melita Creek, and the sloped ridgeline running through the project site. The project would be visible from the adjacent Open Space Area. However, several trees along the eastern boundary of the site would largely obstruct views of the project site from the Open Space Area.

The views from lower elevation portions of Trione-Annadel State Park would not significantly be impacted by the project, as the intervening vegetation along Channel Creek would obscure views of the project site. In addition, views of Hood Mountain and Sugarloaf Ridge State Park from the Trione-Annadel State Park would not be significantly impacted or impaired by implementation of the project because of the intervening vegetation along Channel Creek. However, when viewed from higher elevations in Trione-Annadel State Park the project would be visually inconsistent with the surrounding visual character similar to the impact to views seen from Los Alamos Road. Therefore, impacts to other publicly-available views as seen from afar (particularly higher elevations in Trione-Annadel State Park) would be significant.

Summary

Near views of the project site would be softened by existing and proposed vegetation, preservation of a significant number of trees, maintaining natural topography, building placement, other elements of thoughtful site design, and building setbacks and would therefore be visually consistent with existing character. However, views from Channel Drive would be adversely affected due to the visibility of buildings on-site. Furthermore, middle and distant views of the project site from Los Alamos Road, in which the project site and surrounding areas can be viewed as a whole, would be adversely affected due to the building massing of on-site structures compared to that of surrounding existing structures. As such, impacts to the visual character of the project site from Los Alamos Road

and Channel Drive would be significant. No feasible mitigation is available for the proposed project that would reduce this impact to less than significant due to site configuration constraints as well as the nature and scope of the project being proposed. Note that consideration of a reduced density alternative, which may reduce the severity of this impact, is considered in Section 5, Alternatives, of this Draft EIR.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

No mitigation is available.

Level of Significance After Mitigation

Significant and unavoidable impact.

Light and Glare

Impact AES-4:	The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.
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The project would have a significant impact if substantial light or glare would adversely affect nighttime or daytime views, respectively, in the area. The primary source of nighttime light in the surrounding areas is from vehicle headlights on Sonoma Highway and surrounding residential land uses. Structures in the vicinity of the project site contribute basically no daytime glare within the area.

With buildout, the project would create more sources of nighttime light and daytime glare, due to the increase of lighting and reflective surfaces. Outdoor lighting installed at the project site would comply with applicable requirements of City Zoning Code Section 20-30.080 with a maximum height of 14 feet, shielded, and directed downward to reduce light trespass to adjacent properties. Overall glare from reflective surfaces, such as proposed new building windows, would increase. The addition of cars as a result of the project would also increase the amount of nighttime light and daytime glare (from car windshields).

The project would introduce new sources of nighttime lighting on the project site, including lighting from the homes and lighting in the parking lots. Potential sources of glare associated with the project would consist of glazing (windows) and other reflective materials used in the façades of proposed structures, the reflective surfaces of vehicles parked and travelling within and around the project site. Highly reflective façade materials would be of particular concern, as buildings would reflect the bright sunlight. Although project nighttime lighting could adversely affect views on and near the project site, the site topography and tree canopy would help minimize such light from spilling off site. Daytime glare impacts, however, may be potentially significant.

All new structures, with exception of the cottages (detached single-family units) will require Design Review. Compliance with the above-referenced regulations and Design Guidelines would ensure that the project's impact to existing light sources would be minimized. Glare impacts would be

reduced to a less than significant level with the implementation of Mitigation Measure (MM) AES-1, described below.

The project's new sources of light and glare would be generally visible at a distance from higher elevations within Trione-Annadel State Park and Los Alamos Road. However, because the project site would comply with applicable regulations, and with the implementation of MM AES-1 shown below, and because significant tree canopy exists within the State Park, the new sources of light and glare would not be considered to have a significant effect on nighttime lighting.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM AES-1 Design Standards

As part of the design review process for the project, the applicant shall incorporate the following features into the project's design:

- Structures facing a public street or neighboring property shall use minimally reflective glass, and other materials and colors used on the exterior of buildings and structures shall be selected with attention to minimizing reflective glare.
- Building windows shall be tinted with an anti-reflective material.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

3.1.5 - Cumulative Impacts

Visual Character and Views

The geographic scope of the cumulative aesthetics analysis is the visible area surrounding the project site and the other cumulative projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA. This encompasses the eastern Santa Rosa Plain and nearby Sonoma Mountains and Sugarloaf Ridge, including Rincon Valley where both the project site and designated state and local scenic highways are located.

The affected area is a mix of residential with some commercial development, agricultural land uses (pastures and vineyards), and open space. The project and the cumulative projects listed in Table 3-1 involve past, present and reasonably foreseeable future developments, which propose urban and agricultural development (in the form of residential, commercial, hotel, and winery land uses) which would reduce the amount of existing open space. Open space areas such as hillsides and riparian vegetation provide scenic value to the area, and a reduction of open space areas would constitute a significant cumulative impact.

The project proposes to retain approximately 24 percent of the site in its existing open space condition. Another approximately 34 percent would consist of landscaping, which would use plants

and trees that would be compatible with surrounding open space vegetation. The project would be required to comply with applicable provisions of the Santa Rosa City Code pertaining to creekside development and hillside development, which are designed to minimize impacts on these open space features. The project also must comply with applicable provisions of the City's Design Guidelines for multi-family development, which emphasize the incorporation of existing natural features into site plans. By complying with City codes and guidelines and implementing its proposed site design, the project would minimize its impact on visual resources to the extent feasible.

Projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA, are not generally within the same publicly accessible views of the project, and, therefore, the project would not combine with other relevant cumulative projects for purposes of aesthetic impacts. Furthermore, other cumulative projects that are located in the City of Santa Rosa would be subject to the same codes and guidelines to reduce aesthetic impacts and would be reviewed for potential aesthetic and visual resource impacts and required to mitigate accordingly. As such, the project's impacts to visual character and views would not be cumulatively considerable and therefore, cumulative impacts would be less than significant.

Light and Glare

The project would include streetlights, and exterior and interior residential and care center lighting. Project lighting would be subject to applicable provisions of City Code Chapter 20-30.080, which establishes standards for outdoor lighting. These include height limits for light poles, shielded or recessed lighting fixtures, and directing light downward to prevent indirect illumination of adjoining properties. Other cumulative projects that involve the installation of new exterior lighting fixtures would be required to implement similar measures to prevent light spillage. Both the project and other cumulative projects would result in additional vehicle traffic that would increase the amount of nighttime light and daytime glare (from car windshields). The project would not introduce significant sources of glare or utilize reflective building materials, given adherence to applicable design criteria and implementation of identified mitigation. Furthermore, the project would not have a significant impact on nighttime lighting within Trione-Annadel State Park.

Other cumulative projects would similarly be required to abide by applicable design criteria and undergo design review to reduce light and glare if needed. While the implementation of regulations and design review would reduce lighting and glare from cumulative projects, when combined, there may still be a cumulatively considerable impact when several projects are in close proximity. However, projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA, are not generally within the same area of the project, and, therefore, the project would not combine with other relevant cumulative projects for purposes of lighting and glare impacts. Therefore, the project, in conjunction with other existing, planned, and probable future projects, would have a less than significant cumulative impact related to light and glare.

Overall

Overall, cumulative aesthetics impacts would be less than significant since the cumulative impacts related to visual character/views and light/glare would be less than significant.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

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3.2 - Air Quality

3.2.1 - Introduction

This section describes existing air quality conditions regionally and locally as well as the relevant regulatory framework. This section also evaluates the potential impacts related to air quality that could result from implementation of the project. Information included in this section is based, in part, on project-specific air quality modeling results utilizing California Emissions Estimator Model (CalEEMod) Versions 2016.3.1 and 2016.3.2, and the United States Environmental Protection Agency (EPA) AERMOD air dispersion model Versions 15181 and 16216r (complete modeling output is provided in Appendix C).

3.2.2 - Environmental Setting

Regional Geography and Climate

The San Francisco Bay Area has a Mediterranean climate characterized by mild, dry summers and mild, moderately wet winters; moderate daytime onshore breezes, and moderate humidity. The North Bay region of the Bay Area extends from the Golden Gate Bridge northward to Santa Rosa and eastward to Fairfield.

A semi-permanent, high-pressure area centered over the northeastern Pacific Ocean dominates the summer climate of the West Coast. Because this high-pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus, the conditions that persist along the coast of California during summer are a northwest airflow and negligible precipitation. A thermal low-pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay Area much of the summer.

The steady northwesterly flow around the eastern edge of the Pacific High (a high-pressure cell) exerts stress on the ocean surface along the west coast. This induces upwelling of cold water from below. Upwelling produces a band of cold water off San Francisco that is approximately 80 miles wide. During July, the surface waters off San Francisco are 3 degrees Fahrenheit (°F) cooler than those off Vancouver, British Columbia, more than 900 miles to the north. Air approaching the California coast, already cool and moisture-laden from its long trajectory over the Pacific, is further cooled as it flows across this cold bank of water near the coast, thus accentuating the temperature contrast across the coastline. This cooling is often sufficient to produce condensation—a high incidence of fog and stratus clouds along the Northern California coast in summer.

In summer, the northwest winds to the west of the Pacific coastline are drawn into the interior through the gap in the western Coast Ranges, known as the Golden Gate, and over the lower portions of the San Francisco Peninsula. Immediately to the south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more nearly from the west as they stream through the Golden Gate. This channeling of the flow through the Golden Gate¹ produces a jet that sweeps eastward but widens downstream, producing southwest winds at Berkeley and northwest winds at San José; a branch curves

¹ A strait on the west coast of North America that connects the San Francisco Bay to the Pacific Ocean.

eastward through the Carquinez Straits and into the Central Valley. Wind speeds may be locally strong in regions where air is channeled through a narrow opening such as the Golden Gate, the Carquinez Strait, or San Bruno Gap. For example, the average wind speed at San Francisco International Airport from 3:00 a.m. to 4:00 p.m. in July is about 20 miles per hour (mph), compared with only about 8 mph at San José and less than 7 mph at the Farallon Islands.

The sea breeze between the coast and the Central Valley² commences near the surface along the coast in late morning or early afternoon; it may first be observed only through the Golden Gate. Later in the day, the layer deepens and intensifies while spreading inland. As the breeze intensifies and deepens, it flows over the lower hills farther south along the peninsula. This process frequently can be observed as a bank of stratus clouds “rolling over” the coastal hills on the west side of the bay. The depth of the sea breeze depends in large part upon the height and strength of the inversion. The generally low elevation of this stable layer of air prevents marine air from flowing over the coastal hills. It is unusual for the summer sea breeze to flow over terrain exceeding 2,000 feet in elevation.

In winter, the San Francisco Bay Area Air Basin (Air Basin) experiences periods of storminess, moderate-to-strong winds, and periods of stagnation with very light winds. Winter stagnation episodes are characterized by outflow from the Central Valley, nighttime drainage flows in coastal valleys, weak onshore flows in the afternoon, and otherwise light and variable winds.

A primary factor in air quality is the mixing depth (the vertical air column available for dilution of contaminant sources). Generally, the temperature of air decreases with height, creating a gradient from warmer air near the ground to cooler air at elevation. This is caused by most of the sun’s energy being converted to sensible heat at the ground, which in turn warms the air at the surface. The warm air rises in the atmosphere, where it expands and cools. Sometimes, however, the temperature of air actually increases with height. This condition is known as temperature inversion, because the temperature profile of the atmosphere is “inverted” from its usual state. Over the Air Basin, the frequent occurrence of temperature inversions limits mixing depth and, consequently, limits the availability of air for dilution.

Air Pollutant Types, Sources, and Effects

Criteria Air Pollutants

Air pollutants are termed criteria air pollutants if they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. Table 3.2-1 provides a summary of the types, sources, and effects of criteria air pollutants.

² A flat valley that dominates the geographical center of California stretching 450 miles from north-northwest to south-southeast, inland from and parallel to the Pacific Ocean coast. It is bounded by the Sierra Nevadas to the east and the Pacific Coast Ranges to the west.

Table 3.2-1: Description of Criteria Pollutants of National and California Concern

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Ozone	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), nitrous oxides (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).	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.
Particulate matter (PM ₁₀) Particulate matter (PM _{2.5})	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, (one 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. Secondary particles form from reactions in the atmosphere.	<ul style="list-style-type: none"> • 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.
Nitrogen dioxide (NO ₂)	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.	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.

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Carbon monoxide (CO)	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.	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.
Sulfur dioxide (SO ₂)	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 dimethyl sulfide 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.	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.
Lead (Pb)	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.	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.

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
<p>Sources:</p> <p>National Toxicology Program. 2016. Report on Carcinogens, Fourteenth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles. Website: https://ntp.niehs.nih.gov/ntp/roc/content/profiles/dieselexhaustparticulates.pdf. Accessed July 30, 2018.</p> <p>National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. June 10. Benzene. Website: http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/Benzene.pdf. Accessed December 31, 2019.</p> <p>United States Environmental Protection Agency (EPA). 2003. Particle Pollution and your Health. EPA-452/F-03-001. Website: https://www3.epa.gov/airnow/particles-bw.pdf. Accessed December 30, 2019.</p> <p>United States Environmental Protection Agency (EPA). 2009. Fact Sheet, Proposed Revisions to the National Ambient Air Quality Standards for Nitrogen Dioxide. July 22. Website: https://www.gpo.gov/fdsys/pkg/FR-2009-07-15/pdf/E9-15944.pdf. Accessed December 31, 2019.</p> <p>United States Environmental Protection Agency (EPA). 2009. Ozone and your Health. EPA-456/F-09-001. Website: https://www3.epa.gov/airnow/ozone-c.pdf. Accessed December 30, 2019.</p> <p>United States Environmental Protection Agency (EPA). 2010. Technology Transfer Network, Air Toxics Website. Page updated April 5, 2010. Health Effects Notebook for Hazardous Air Pollutants. Website: https://www.epa.gov/haps/health-effects-notebook-hazardous-air-pollutants. Accessed December 31, 2019.</p>			

Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs) are also used as indicators of air quality conditions. Air pollutant human exposure standards are identified for many TACs, including the following common TACs relevant to development projects: particulate matter, fugitive dust, lead, and asbestos. These air pollutants are called TACs because they are air pollutants that may cause or contribute to an increase in mortality or in 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 impact may pose a threat to public health even at low concentrations. TACs can cause long-term health effects (such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage) or short-term acute effects (such as eye watering, respiratory irritation, runny nose, throat pain, or headaches).

TACs are separated into carcinogens and noncarcinogens based on the nature of the physiological effects associated with exposure to a particular TAC. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. Cancer risk is typically expressed as excess cancer cases per million exposed individuals, typically over a lifetime exposure or other prolonged duration. For noncarcinogenic substances, there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels may vary depending on the specific pollutant. Acute and chronic exposure to noncarcinogens is expressed as a hazard index (HI), which is the ratio of expected exposure levels to an acceptable reference exposure levels. Table 3.2-2 provides a summary of the types, sources, and effects of TACs.

Table 3.2-2: Description of Toxic Air Contaminants of National and California Concern

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Diesel Particulate Matter (diesel PM)	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 DPM 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.	Some short-term (acute) effects of DPM 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 DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.
VOCs	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.	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.

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Benzene	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 one to two percent by volume. The primary route of human exposure is through inhalation.	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.
Asbestos	Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite.	Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States.	Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present.
Hydrogen Sulfide	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).	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.

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Sulfates	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.	(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.
Visibility Reducing Particles	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). $\text{PM}_{2.5}$ 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. Secondary particles form from reactions in the atmosphere.	<ul style="list-style-type: none"> • Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravates 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.
Vinyl Chloride	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	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.

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
		to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.	
Lead (Pb)	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.	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.
<p>Sources:</p> <p>California Air Resources Board (ARB). 2009. California Air Resources Board. Vinyl Chloride. Website: https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed December 30, 2019.</p> <p>California Environmental Protection Agency (Cal/EPA). 2002. Office of Environmental Health Hazard Assessment. Health Effects of Diesel Exhaust. Website: https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf. Accessed December 30, 2019.</p> <p>National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles. Website: http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/DieselExhaustParticulates.pdf. Accessed July 18, 2013.</p> <p>National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. June 10. Benzene. Website: http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/Benzene.pdf. Accessed December 31, 2019.</p> <p>National Toxicology Program. 2016. Report on Carcinogens, Fourteenth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles. Website: https://ntp.niehs.nih.gov/ntp/roc/content/profiles/dieselexhaustparticulates.pdf. Accessed July 30, 2018.</p> <p>United States Environmental Protection Agency (EPA). 2003. Particle Pollution and your Health. EPA-452/F-03-001. Website: https://www3.epa.gov/airnow/particles-bw.pdf. Accessed December 30, 2019.</p> <p>United States Environmental Protection Agency (EPA). 2010. Technology Transfer Network, Air Toxics Website. Page updated April 5, 2010. Health Effects Notebook for Hazardous Air Pollutants. Website: https://www.epa.gov/haps/health-effects-notebook-hazardous-air-pollutants. Accessed December 31, 2019.</p> <p>United States Environmental Protection Agency (EPA). 2011. Indoor Air Quality. Sources of Indoor Air Pollution—Organic Gases (Volatile Organic Compounds—VOCs). Website: www.epa.gov/iaq/voc.html. Accessed December 31, 2019.</p>			

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017–2025 Cars and Light Trucks. Website: http://www.epa.gov/otaq/climate/documents/420f12051.pdf . Accessed December 31, 2019.			

Air Quality

Regional

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature inversions interact with the physical features of the landscape to determine the movement and dispersal of air pollutant emissions and, consequently, their effect on air quality.

The project vicinity is within the jurisdiction of Bay Area Air Quality Management District (BAAQMD). BAAQMD is the regional agency with jurisdiction for regulating air quality within the nine-county Air Basin, which includes 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.

Air Pollutant Standards and Attainment Designations

Air pollutant standards have been identified by the EPA and the California Air Resources Board (ARB) for the following six criteria air pollutants that affect ambient air quality: ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead, and particulate matter (PM), which is subdivided into two classes based on particle size: PM equal to or less than 10 microns in diameter (PM₁₀), and PM equal to or less than 2.5 microns in diameter (PM_{2.5}). These air pollutants are called “criteria air pollutants” because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. Table 3.2-3 presents the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).

Table 3.2-3: Federal and State Air Quality Standards in the Air Basin

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a
Ozone	1 Hour	0.09 ppm	—
	8 Hour	0.070 ppm	0.070 ppm ^f
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm
	8 Hour	9.0 ppm	9 ppm
Nitrogen dioxide ^b (NO ₂)	1 Hour	0.18 ppm	0.100 ppm
	Annual	0.030 ppm	0.053 ppm
Sulfur dioxide ^c (SO ₂)	1 Hour	0.25 ppm	0.075 ppm
	3 Hour	—	0.5 ppm

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a
	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
	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	
Sulfates	24 Hour	25 µg/m ³	—
Lead ^e	30-day	1.5 µg/m ³	—
	Quarter	—	1.5 µg/m ³
	Rolling 3-month average	—	0.15 µg/m ³
Vinyl chloride ^e	24 Hour	0.01 ppm	—
Hydrogen sulfide	1 Hour	0.03 ppm	—
Volatile organic compounds (VOC)		There are no State or federal standards for VOCs because they are not classified as criteria pollutants.	
Benzene		There are no ambient air quality standards for benzene.	
Diesel particulate matter (DPM)		There are no ambient air quality standards for DPM.	
Notes: ppm = parts per million (concentration) µg/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 SO ₂ , 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 SO ₂ 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 SO ₂ 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, 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. ^f The EPA Administrator approved a revised 8-hour ozone standard of 0.07 ppb on October 1, 2015. The new standard went into effect 60 days after publication of the Final Rule in the Federal Register. The Final Rule was published in the Federal Register on October 26, 2015 and became effective on December 28, 2015.			

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a
<p>Sources:</p> <p>California Air Resources Board (ARB). 2009. California Air Resources Board. Vinyl Chloride. Website: https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed December 30, 2019.</p> <p>California Environmental Protection Agency (Cal/EPA). 2002. Office of Environmental Health Hazard Assessment. Health Effects of Diesel Exhaust. Website: https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf. Accessed December 30, 2019.</p> <p>National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles. Website: http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/DieselExhaustParticulates.pdf. Accessed July 18, 2013.</p> <p>National Toxicology Program. 2011. Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. June 10. Benzene. Website: http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/Benzene.pdf. Accessed December 31, 2019.</p> <p>National Toxicology Program. 2016. Report on Carcinogens, Fourteenth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles. Website: https://ntp.niehs.nih.gov/ntp/roc/content/profiles/dielexhaustparticulates.pdf. Accessed July 30, 2018.</p> <p>United States Environmental Protection Agency (EPA). 2003. Particle Pollution and your Health. EPA-452/F-03-001. Website: https://www3.epa.gov/airnow/particles-bw.pdf. Accessed December 30, 2019.</p> <p>United States Environmental Protection Agency (EPA). 2010. Technology Transfer Network, Air Toxics Website. Page updated April 5, 2010. Health Effects Notebook for Hazardous Air Pollutants. Website: https://www.epa.gov/haps/health-effects-notebook-hazardous-air-pollutants. Accessed December 31, 2019.</p> <p>United States Environmental Protection Agency (EPA). 2011. Indoor Air Quality. Sources of Indoor Air Pollution—Organic Gases (Volatile Organic Compounds—VOCs). Website: www.epa.gov/iaq/voc.html. Accessed December 31, 2019.</p> <p>United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017–2025 Cars and Light Trucks. Website: http://www.epa.gov/otaq/climate/documents/420f12051.pdf. Accessed December 31, 2019.</p>			

Ambient air pollutant concentrations in the Air Basin are measured at air quality monitoring stations operated by the ARB and BAAQMD. In general, the Air Basin experiences low concentrations of most pollutants compared to federal or State standards.

Both the EPA and ARB use ambient air quality monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. “Attainment” status refers to those regions that are meeting federal and/or State standards for a specified criteria pollutant. “Nonattainment” refers to regions that do not meet federal and/or State standards for a specified criteria pollutant. “Unclassified” refers to regions where there is not enough data to determine the region’s attainment status for a specified criteria air pollutant. Each standard has a different definition, or “form” of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual PM_{2.5} standard is met if the three-year average of the annual average PM_{2.5} concentration is less than or equal to the standard.

The current attainment designations for the Air Basin are shown in Table 3.2-4. The Air Basin is designated as nonattainment for the State ozone, PM₁₀, and PM_{2.5}, standards, nonattainment for the national ozone and PM_{2.5} standards, and unclassified for the national PM₁₀ standard.

Table 3.2-4: San Francisco Bay Area Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment
Carbon monoxide	Attainment	Attainment
Nitrogen dioxide	Attainment	Attainment
Sulfur dioxide	Attainment	Attainment
PM ₁₀	Nonattainment	Unclassified
PM _{2.5}	Nonattainment	Nonattainment
Sulfates	Attainment	N/A
Hydrogen Sulfates	Unclassified	N/A
Visibility-reducing Particles	Unclassified	N/A
Lead	N/A	Attainment

Source: Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. January. Website: <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>. Accessed February 8, 2019.

Air Quality Index

The health impacts of the various air pollutants of concern can be presented in a number of ways. The clearest in comparison is to the State and federal ozone standards. If concentrations are below the standard, it is safe to say that no health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air. Table 3.2-5 provides a description of the health impacts of ozone at different concentrations.

Table 3.2-5: Air Quality Index and Health Effects from Ozone

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI—51—100—Moderate	Sensitive Groups: Children and people with asthma are the groups most at risk.
Concentration 55–70 ppb	Health Effects Statements: Unusually sensitive individuals may experience respiratory symptoms.
	Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI—101–150—Unhealthy for Sensitive Groups Concentration 86–105 ppb	Sensitive Groups: Children and people with asthma are the groups most at risk. Health Effects Statements: Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma. Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI—151–200—Unhealthy Concentration 86–105 ppb	Sensitive Groups: Children and people with asthma are the groups most at risk. Health Effects Statements: Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population. Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI—201–300—Very Unhealthy Concentration 106–200 ppb	Sensitive Groups: Children and people with asthma are the groups most at risk. Health Effects Statements: Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population. Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
Source: Air Now. 2015. AQI Calculator: AQI to Concentration. Website: http://www.airnow.gov/index.cfm?action=re-sources.aqi_conc_calc . Accessed September 2, 2017.	

Air Pollution Exposure Zone

Emissions of diesel PM, PM_{2.5} (including brake and tire wear), organic gases, and other TACs from stationary sources represent existing exposure to PM_{2.5} and excess cancer risk. Areas with poor air quality, many of which buffer major thoroughfares are Air Pollutant Exposure Zones (APEZ). An APEZ meets either or both of the criteria described below.

- **Excess Cancer Risk of 100 per One Million Persons.** This criterion is based on EPA guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale levels (BAAQMD 2009). As described by BAAQMD, EPA considers a cancer risk of 100 per million to be within the “acceptable” range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants rulemaking (54 Federal Register 38044, September 14, 1989), EPA states that it . . . strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no

higher than approximately one in one million and (2) limiting to no higher than approximately one in ten thousand [100 in one million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years.

The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling.³

- Fine Particulate Matter of 2.5 µg/m₃. In April 2011, EPA published Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards, “Particulate Matter Policy Assessment” (EPA 2011a). In this document, EPA staff concludes that the then-current federal annual PM_{2.5} standard of 15 µg/m₃ should be revised to a level within the range of 13 to 11 µg/m₃, with evidence strongly supporting a standard within the range of 12 to 11 µg/m₃. An APEZ for Santa Rosa is based on the health protective PM_{2.5} standard of 11 µg/m₃, as supported by EPA’s Particulate Matter Policy Assessment, although lowered to 10 µg/m₃ to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.

Two other indices have been used to determine whether areas require more stringent criteria:

- Location in a Health-Vulnerable Zip Code. In addition to the lots included in the APEZ, zip codes in the lowest 20 percent of Bay Area Health Vulnerability scores are identified as health-vulnerable zip codes. For areas that are included in the APEZ and a health-vulnerable zip code, the standard was lowered to an excess cancer risk from the contribution of emissions from all modeled sources greater than 90 per one million persons, and/or cumulative PM_{2.5} concentrations greater than 9 µg/m₃.
- Proximity to a Major Transportation Thoroughfare. According to the ARB, studies have shown an association between the proximity of sensitive land uses to freeways/other major transportation thoroughfares and a variety of respiratory symptoms, asthma exacerbations, and decreases in lung function in children. Siting sensitive uses in close proximity to freeways/other major transportation thoroughfares increases both exposure to air pollution and the potential for adverse health effects. As evidence shows that sensitive uses in an area within a 500-foot buffer of any freeway are at an increased health risk from air pollution (ARB 2005), lots that are within 500 feet of freeways are included in an APEZ.

Local Air Quality

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. Table 3.2-6 presents a summary of the highest annual concentrations of criteria air pollutants collected at the nearest air quality monitoring stations with available information for the most recent three-year period available. The table displays data from the Sebastopol-103 Morris Street monitoring station (located approximately 10.7 miles southwest of the project site) and the Healdsburg-Matheson monitoring station (located approximately 16.9 miles northwest from the project site). The data show that during the period of 2014 through 2016 (which was the most recent data available at the time

³ Bay Area Air Quality Management District (BAAQMD). 2009. California Environmental Quality Act Thresholds of Significance. Website: http://www.gsweventcenter.com/GSW_RTC_References/2009_1001_BAAQMD.pdf.

environmental review commenced), the only standard exceeded in the immediate vicinity of the project site was the State PM₁₀ air standard in 2015. The data in the table reflect the concentration of the pollutants in the air, measured using air monitoring equipment. This differs from emissions, which are calculations of a pollutant being emitted over a certain period from an emission source. No recent monitoring data for Sonoma County were available for CO or SO₂ when environmental review commenced. Generally, monitoring is not conducted for pollutants that are no longer likely to exceed ambient air quality standards.

Table 3.2-6: Summary of Eastern Santa Rosa Criteria Pollutants Monitoring Data (2014–2016)

Air Pollutant	Averaging Time	Item	2014	2015	2016
Ozone ¹	1 Hour	Max 1 Hour (ppm)	0.067	0.068	0.073
		Days > State Standard (0.09 ppm)	0	0	0
	8 Hour	Max 8 Hour (ppm)	0.062	0.063	0.065
		Days > State Standard (0.07 ppm)	0	0	0
		Days > National Standard (0.075 ppm)	0	0	0
Carbon monoxide	8 Hour	Max 8 Hour (ppm)	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND
Nitrogen dioxide ¹	Annual	Annual Average (ppm)	0.004	0.004	0.004
	1 Hour	Max 1 Hour (ppm)	0.0443	0.0368	0.0318
		Days > State Standard (0.18 ppm)	0	0	0
Sulfur dioxide	Annual	Annual Average (ppm)	ND	ND	ND
	24 Hour	Max 24 Hour (ppm)	ND	ND	ND
		Days > State Standard (0.04 ppm)	ND	ND	ND
Inhalable coarse particles (PM ₁₀) ²	Annual	Annual Average (µg/m ³)	14.4	15.5	ID
	24 hour	24 Hour (µg/m ³)	45.6	50.7	43.5
		Days > State Standard (50 µg/m ³)	0	1	ID
		Days > National Standard (150 µg/m ³)	0	0	ID
Fine particulate matter (PM _{2.5}) ¹	Annual	Annual Average (µg/m ³)	7.7	6.9	4.9
	24 Hour	24 Hour (µg/m ³)	26.2	29.9	18.7
		Days > National Standard (35 µg/m ³)	0	0	0

Air Pollutant	Averaging Time	Item	2014	2015	2016
<p>Notes:</p> <p>> = exceed ppm = parts per million $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter</p> <p>ID = insufficient data ND = no data max = maximum</p> <p>Bold = exceedance</p> <p>State Standard = California Ambient Air Quality Standard</p> <p>National Standard = National Ambient Air Quality Standard</p> <p>¹ Sebastopol-103 Morris Street Air Monitoring Station</p> <p>² Healdsburg-133 Matheson Street Air Monitoring Station</p> <p>Source: California Air Resources Board (ARB). 2017. iADAM: Air Quality Data Statistics. Website: https://www.arb.ca.gov/adam/. Accessed September 27, 2017.</p>					

Based on the AQI scale for the 8-hour ozone standard (Table 3.2-5), the project area experienced no days in the 2014-2016 three-year reporting period that would be categorized as very unhealthy (AQI 201-250) or unhealthy (AQI 151-200). The highest reading was 65 parts per billion (ppb) in 2016, which would fall in the range for moderate (AQI 51-100).

Sensitive Receptors

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others are. Land uses such as residences, schools, day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality, because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than that for other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically and conservatively assumes that residences would be exposed to air pollution 24-hours-per-day, 350-days-per-year, for 70 years. The BAAQMD defines sensitive receptors as children, adults, and seniors occupying or residing in residential dwellings, schools, day care centers, hospitals, and senior-care facilities.

Project Vicinity

The project site is adjacent to existing residential areas including the Oakmont Village, a master planned retirement community. The closest sensitive receptors to the project site include residences located directly adjacent to the project site near the intersection of Susan Road and Brand Road and residences east of the project site located along Stone Bridge Road. Exhibit 3.2-1 shows the nearby existing sensitive receptors. The closest off-site sensitive receptors are residential land uses located northwest, north, and east of the project site (see the discussion of sensitive receptor locations below, and see Exhibit 3.2-1).

Project Site

There are the remnants of three on-site single-family residences that were destroyed by the Glass Fire; however, these remnants would be removed prior to project implementation.

Existing Emission Sources

Project Vicinity

The primary sources of air pollutants in the project vicinity are vehicle emissions from the Sonoma Highway. Land uses surrounding the project site include residential single-family and multi-family units, and open space/recreational uses (Exhibit 2-1). There are no existing permitted stationary sources within 1,000 feet of the project site.

Project Site

The project site does not currently support developed land uses. As such, no criteria air pollutant or TAC emissions are generated from the project site. This project site is not located in an APEZ or a health-vulnerable zip code. However, the Sonoma Highway is an existing major transportation thoroughfare located adjacent to the project site.

3.2.3 - Regulatory Framework

Federal

Clean Air Act

Congress established much of the basic structure of the Clean Air Act (CAA) in 1970, and made major revisions in 1977 and 1990. Six common air pollutants (also known as criteria pollutants) are addressed in the CAA. These are particulate matter, ground-level ozone, CO, sulfur oxides, nitrogen oxides, and lead. The EPA calls these pollutants criteria air pollutants, because it regulates them by developing human health-based and/or environmentally based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health are called primary standards. Another set of limits intended to prevent environmental and property damage are called secondary standards.⁴ The federal standards are called NAAQS. The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone
- Nitrogen dioxide (NO₂)
- Lead
- Particulate matter (PM₁₀ and PM_{2.5})
- Carbon monoxide (CO)
- Sulfur dioxide

⁴ United States Environmental Protection Agency (EPA). 2014. Clean Air Act Requirements and History. Website: <https://www.epa.gov/clean-air-act-overview/clean-air-act-requirements-and-history>. Accessed April 25, 2016.



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The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

The Clean Air Act also requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies.

EPA Emission Standards for New Off-Road Equipment

Before 1994, there were no standards to limit the amount of emissions from off-road equipment. In 1994, EPA established emission standards for hydrocarbons, NO_x, CO, and PM to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. Since that time, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by EPA, as well as by ARB. Each adopted emission standard was phased in over time. New engines built in and after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other words, new manufactured engines cannot exceed the emissions established for Tier 4 final emissions standards.

State

California Air Quality Control Plan (State Implementation Plan)

A SIP is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The SIP for the State of California is administered by the ARB, which has overall responsibility for Statewide air quality maintenance and air pollution prevention. California's SIP incorporates individual federal attainment plans for regional air districts—an air district prepares their federal attainment plan, which is sent to the ARB to be approved and incorporated into the California SIP. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

Areas designated nonattainment must develop air quality plans and regulations to achieve standards by specified dates, depending on the severity of the exceedances. For much of the country, implementation of federal motor vehicle standards and compliance with federal permitting requirements for industrial sources are adequate to attain air quality standards on schedule. For many areas of California, however, additional State and local regulation is required to achieve the standards.

California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality problems were and continue to be some of the most severe in the nation, and required additional actions beyond the federal mandates. The ARB administers (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 state air pollutants are the six federal standards listed above as well as visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The EPA authorized

California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the CAA. However, generally, the planning requirements of the CCAA are less stringent than the federal CAA; therefore, consistency with the CAA will also demonstrate consistency with the CCAA.

Other ARB responsibilities include but are not limited to overseeing local air district compliance with California and federal laws; approving local air quality plans; submitting SIPs to EPA; monitoring air quality; determining and updating area designations and maps; and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

California Health and Safety Code Section 39655 and California Code of Regulations Title 17 Section 93000 (Substances Identified as Toxic Air Contaminants)

The ARB identifies substances as TACs as defined in Health and Safety Code Section 39655 and listed in Title 17, Section 93000 of the California Code of Regulations, “Substances Identified As Toxic Air Contaminants.” 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 are thresholds set by regulatory agencies 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.

California Low-Emission Vehicle Program

The ARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State’s passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 SIP. In 2012, the ARB adopted the LEV III amendments to California’s LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and greenhouse gas (GHG) emissions for new passenger vehicles.⁵

California On-Road Heavy-Duty Vehicle Program

The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California’s emission standards for on-road heavy-duty engines and vehicles, and test procedures. The ARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty

⁵ California Air Resources Board (ARB). 2013. Clean Car Standards—Pavley, Assembly Bill 1493. Website: <http://www.arb.ca.gov/cc/ccms/ccms.htm>. Accessed February 14, 2017.

Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.⁶

California In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, the ARB adopted a regulation to reduce DPM and NO_x emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB is enforcing that part of the rule with fines up to \$10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NO_x emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501-5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

The latest amendments to the Truck and Bus regulation became effective on December 31, 2014. The amended regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent.

The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks.⁷

California Airborne Toxics Control Measure for Asbestos

The ARB has adopted Airborne Toxics Control Measures for sources that emit a particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology to minimize emissions.

In July 2001, the ARB approved an Air Toxic Control Measure for construction, grading, quarrying and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices (BMPs) to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and

⁶ California Air Resources Board (ARB). 2013. The California Almanac of Air Quality and Emissions—2013 Edition. Website: <http://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm>. Accessed February 14, 2017.

⁷ California Air Resources Board (ARB). 2015. On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation. Website: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>. Accessed September 22, 2017.

engineering controls at work sites larger than one acre in size. These projects require the submittal of a “Dust Mitigation Plan” and approval by the air district prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where construction occurs. Buildings often include materials containing asbestos, and the project involves the demolition of existing buildings totaling approximately 14,100 square feet. Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

The ARB has an Air Toxics Control Measure for construction, grading, quarrying, and surface mining operations, requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. The measure applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity. Review of the Department of Conservation maps indicates that no ultramafic rock, serpentine, or naturally occurring asbestos has been found near the City of Santa Rosa.

Verified Diesel Emission Control Strategies

The EPA and ARB tiered off-road emission standards only apply to new engines and off-road equipment built during the last several years. The ARB has developed Verified Diesel Emission Control Strategies (VDECS), which are devices, systems, or strategies used to achieve the highest level of pollution control from existing off-road vehicles, to help reduce emissions from existing engines. VDECS are designed primarily for the reduction of diesel PM emissions and have been verified by the ARB. There are three levels of VDECS, the most effective of which is the Level 3 VDECS. Tier 4 engines are not required to install VDECS because they already meet the emissions standards for lower tiered equipment with installed controls.

California Diesel Risk Reduction Plan

The ARB’s Diesel Risk Reduction Plan has led to the adoption of new state regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with

the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020.⁸

Tanner Air Toxics Act and Air Toxics Hot Spots Information and Assessment Act

TACs in California are primarily regulated through the Tanner Air Toxics Act (Assembly Bill 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (Assembly Bill 2588), also known as the Hot Spots Act. To date, the ARB has identified more than 21 TACs, and has adopted EPA's list of hazardous air pollutants as TACs.

Carl Moyer Memorial Air Quality Standards Attainment Program

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program), a partnership between the ARB and local air districts, is a voluntary program that issues grants to replace or retrofit older engines and equipment with engines and equipment that exceed current regulatory requirements to reduce air pollution. Money collected through the Carl Moyer Program complements California's regulatory program by providing incentives to effect early or extra emission reductions, especially from emission sources in environmental justice communities and areas disproportionately affected by air pollution. The program has established guidelines and criteria for the funding of emissions reduction projects. Within the Air Basin, the BAAQMD administers the Carl Moyer Program. The program establishes cost-effectiveness criteria for funding emission reductions projects, which under the final 2017 Carl Moyer Program Guidelines are \$30,000 per weighted ton of NO_x, ROG, and PM.⁹

Regional

BAAQMD California Environmental Quality Act Air Quality Guidelines

The BAAQMD is the primary agency responsible for ensuring that air quality standards (NAAQS and CAAQS) are attained and maintained in the Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The BAAQMD prepares plans to attain ambient air quality standards in the Air Basin. The BAAQMD prepares ozone attainment plans for the national ozone standard, clean air plans (CAPs) for the California standard, and PM plans to fulfill federal air quality planning requirements. The BAAQMD also inspects stationary sources of air pollution; responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the Clean Air Act, the Clean Air Act Amendments of 1990, and the California Clean Air Act.

The BAAQMD developed quantitative thresholds of significance for its California Environmental Quality Act (CEQA) Guidelines in 2010,¹⁰ which were also included in its updated 2011 Guidelines.¹¹ BAAQMD's adoption of the 2010 thresholds of significance was later challenged in court. In an opinion issued on December 17, 2015, related to the BAAQMD CEQA guidelines, the California

⁸ California Air Resources Board (ARB). 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles. Website: <http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf>. Accessed September 22, 2017.

⁹ California Air Resources Board (ARB). 2017. 2017 Carl Moyer Program Guidelines. Website: <https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>. Accessed June 2, 2018.

¹⁰ Bay Area Air Quality Management District (BAAQMD). 2010. California Environmental Quality Act Air Quality Guidelines. May 2010.

¹¹ Bay Area Air Quality Management District (BAAQMD). 2011. California Environmental Quality Act Air Quality Guidelines. Updated May 2011.

Supreme Court held that CEQA does not generally require an analysis of the impacts of locating development in areas subject to environmental hazards unless the project would exacerbate existing environmental hazards. The Supreme Court also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and employee housing. The Supreme Court also held that public agencies remain free to voluntarily conduct this analysis not required by CEQA for their own public projects (*CBIA v. BAAQMD* [2016] 2 Cal.App.5th 1067, 1083).

In view of the Supreme Court's opinion, BAAQMD published a new version of its CEQA Guidelines in May 2017. The BAAQMD CEQA Guidelines state that local agencies may rely on thresholds designed to reflect the impact of locating development near areas of toxic air contamination where such an analysis is required by CEQA or where the agency has determined that such an analysis would assist in making a decision about the project. However, the thresholds are not mandatory and agencies should apply them only after determining that they reflect an appropriate measure of a project's impacts. BAAQMD's guidelines for implementation of the thresholds are for informational purposes only, to assist local agencies.

BAAQMD 2017 Clean Air Plan

The BAAQMD adopted the Bay Area Clean Air Plan: Spare the Air, Cool the Climate (Bay Area Clean Air Plan) on April 19, 2017, to provide a regional strategy to improve Bay Area air quality and meet public health goals.¹² The control strategy described in the Bay Area Clean Air Plan includes a wide range of control measures designed to reduce emissions and lower ambient concentrations of harmful pollutants, safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, and reduce GHG emissions to protect the climate.

The Bay Area Clean Air Plan addresses four categories of pollutants: ground-level ozone and its key precursors, ROG and NO_x; PM, primarily PM_{2.5}, and precursors to secondary PM_{2.5}; air toxics; and GHGs. The control measures are categorized based on the economic sector framework including stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, and water measures.¹³

BAAQMD Particulate Matter Plan

To fulfill federal air quality planning requirements, the BAAQMD adopted a PM_{2.5} emissions inventory for year 2010 at a public hearing on November 7, 2012. The Bay Area Clean Air Plan also included several measures for reducing PM emissions from stationary sources and wood burning. On January 9, 2013, the EPA issued a final rule determining that the Bay Area has attained the 24-hour PM_{2.5} NAAQS, suspending federal SIP planning requirements for the Air Basin.¹⁴ Despite this EPA action, the Air Basin will continue to be designated as nonattainment for the national 24-hour PM_{2.5}

¹² Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. Website: http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed April 24, 2018.

¹³ *Ibid.*

¹⁴ United States Environmental Protection Agency (EPA). 2013. Federal Register. Determination of Attainment for the San Francisco Bay Area Nonattainment Area for the 2006 Fine Particle Standard; California; Determination Regarding Applicability of Clean Air Act Requirements. Website: <https://www.federalregister.gov/documents/2013/01/09/2013-00170/determination-of-attainment-for-the-san-francisco-bay-area-nonattainment-area-for-the-2006-fine>. Accessed June 5, 2018.

standard until BAAQMD submits a redesignation request and a maintenance plan to EPA, and EPA approves the proposed redesignation.

The Air Basin is designated nonattainment for the State PM₁₀ and PM_{2.5} standards, but it is currently unclassified for the federal PM₁₀ standard and nonattainment for federal PM_{2.5} standards. The EPA lowered the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ in 2006, and designated the Air Basin as nonattainment for the new PM_{2.5} standard effective December 14, 2009.

On December 8, 2011, the ARB submitted a “clean data finding” request to the EPA on behalf of the Bay Area. If the clean data-finding request is approved, then EPA guidelines provide that the region can fulfill federal PM_{2.5} SIP requirements by preparing either a redesignation request and a PM_{2.5} maintenance plan, or a “clean data” SIP submittal. Because peak PM_{2.5} levels can vary from year to year based on natural, short-term changes in weather conditions, the BAAQMD believes that it would be premature to submit a redesignation request and PM_{2.5} maintenance plan at this time. Therefore, the BAAQMD will prepare a “clean data” SIP to address the required elements, including:

- An emission inventory for primary PM_{2.5}, as well as precursors to secondary PM formation
- Amendments to the BAAQMD’s New Source Review regulation to address PM_{2.5}.

BAAQMD 2001 Ozone Attainment Plan

The BAAQMD adopted the Bay Area Ozone Attainment Plan in 2001 in response to EPA’s finding that the Bay Area had failed to attain the NAAQS for ozone. The plan includes a control strategy for ozone and its precursors to ensure a reduction in emissions from stationary sources, mobile sources, and the transportation sector.¹⁵

Because the Air Basin is nonattainment for the federal and State ozone standards, the BAAQMD prepared an Ozone Attainment Demonstration Plan to satisfy the federal 1-hour ozone planning requirement and a CAP to satisfy the State 1-hour ozone planning requirement. The EPA revoked the 1-hour ozone standard and adopted an 8-hour ozone standard.

On May 2017, the BAAQMD adopted the final Bay Area 2017 Clean Air Plan (2017 CAP). The 2017 CAP was prepared by the BAAQMD in cooperation with the Metropolitan Transportation Commission and the Association of Bay Area Governments (ABAG). The goals of the 2017 CAP are to reduce regional air pollutants and climate pollutants to improve the health of Bay Area residents for the next decades. The 2017 CAP aims to lead the region into a post-carbon economy, continue progress toward attaining all state and federal air quality standards, and eliminate health risk disparities from air pollution exposure in Bay Area communities. The 2017 CAP includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision that forecasts what a clean air Bay Area will look like in year 2050. The 2017 CAP envisions a future where by the year 2050:

- Buildings will be energy efficient—heated, cooled and powered by renewable energy.

¹⁵ Bay Area Air Quality Management District (BAAQMD). 2001. Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard. Website: http://www.baaqmd.gov/~media/files/planning-and-research/plans/2001-ozone-attainment-plan/oap_2001.pdf. Accessed June 5, 2018.

- Transportation will be a combination of electric vehicles, both shared and privately owned; and autonomous public transit fleets with a large share of trips by bicycling, walking, and transit.
- The Bay Area will be powered by clean, renewable electricity and will be a leading incubator and producer of clean energy technologies leading the world in the carbon-efficiency of our products.
- Bay Area residents will have developed a low-carbon lifestyle by driving electric vehicles, living in zero net energy homes, eating low-carbon foods and purchasing goods and services with low carbon content.
- Waste will be greatly reduced, waste products will be re-used or recycled and all organic waste will be composted and put to productive use.

The focus of control measures includes aggressively targeting the largest source of GHG, ozone pollutants and particulate matter emissions—transportation. This includes more incentives for electric vehicle infrastructure, off-road electrification projects such as Caltrain (a California commuter rail line on the San Francisco Peninsula and in the Santa Clara Valley), and shore power at ports that would reduce emissions from trucks, school buses, marine vessels, locomotives, and off-road equipment. Additionally, the BAAQMD will continue to work with regional and local governments to reduce vehicle miles traveled through the further funding of rideshare, bike and shuttle programs.

BAAQMD Regulation 2, Rule 5 (New Source Review Permitting)

The BAAQMD regulates backup emergency generators, fire pumps, and other sources of TACs through its New Source Review (Regulation 2, Rule 5) permitting process.¹⁶ Although emergency generators are intended to be used only during periods of power outages, monthly testing of each generator is required; however, the BAAQMD limits testing to no more than 50 hours per year. Each emergency generator installed is assumed to meet a minimum of Tier 2 emission standards (before control measures). As part of the permitting process, the BAAQMD limits the excess cancer risk from any facility to no more than 10 per 1 million population for any permits that are applied for within a 2-year period and would require any source that would result in an excess cancer risk greater than 1 per 1 million to install Best Available Control Technology for Toxics.

BAAQMD Regulation 8, Rule 3 (Architectural Coatings)

This rule governs the manufacture, distribution, and sale of architectural coatings and limits the reactive organic gas (ROG) content in paints and paint solvents. Although this rule does not directly apply to the project, it does dictate the ROG content of paint available for use during the construction.

BAAQMD Regulation 8, Rule 15 (Emulsified and Liquid Asphalts)

Emulsified and Liquid Asphalts. Although this rule does not directly apply to the project, it does dictate the ROG content of asphalt available for use during the construction through regulating the sale and use of asphalt and limits the ROG content in asphalt.

¹⁶ Bay Area Air Quality Management District (BAAQMD). 2016. Complex Permitting Book for BAAQMD New Source Review Permitting. September.

BAAQMD Regulations Pertaining to Odorous Emissions

The BAAQMD is responsible for investigating and controlling odor complaints in the Bay Area. The agency enforces odor control by helping the public to document a public nuisance. Upon receipt of a complaint, the BAAQMD sends an investigator to interview the complainant and to locate the odor source if possible. The BAAQMD typically brings a public nuisance court action when there are a substantial number of confirmed odor events within a 24-hour period. An odor source with five or more confirmed complaints per year averaged over 3 years is considered to have a substantial effect on receptors.

Several BAAQMD regulations and rules apply to odorous emissions. Regulation 1, Rule 301 is the nuisance provision that states that sources cannot emit air contaminants that cause nuisance to a considerable number of persons. Regulation 7 specifies limits for the discharge of odorous substances where the BAAQMD receives complaints from 10 or more complainants within a 90-day period. Among other things, Regulation 7 precludes discharge of an odorous substance that causes the ambient air at or beyond the property line to be odorous after dilution with 4 parts of odor-free air, and specifies maximum limits on the emission of certain odorous compounds.

ABAG and MTC Plan Bay Area

On July 18, 2013, the Metropolitan Transportation Commission (MTC) and the ABAG approved the Plan Bay Area. The Plan Bay Area includes integrated land use and transportation strategies for the region and was developed through OneBayArea, a joint initiative between the ABAG, BAAQMD, MTC, and the San Francisco Bay Conservation and Development Commission. The plan's transportation policies focus on maintaining the extensive existing transportation network and utilizing these systems more efficiently to handle density in Bay Area transportation cores.¹⁷ Assumptions for land use development used are taken from local and regional planning documents. Emission forecasts in the Bay Area Clean Air Plan rely on projections of vehicle miles traveled, population, employment, and land use projections made by local jurisdictions during development of Plan Bay Area.

Local

Santa Rosa General Plan

The City of Santa Rosa General Plan establishes the following goals and policies that are relevant to air quality:

- **OSC-J:** Take appropriate actions to help Santa Rosa and the larger Bay Area region achieve and maintain all ambient air quality standards.
- **OSC-J-1:** Review all new construction projects and require dust abatement actions as contained in the CEQA Handbook of the Bay Area Air Quality Management District.
- **OSC-J-2:** Budget for clean fuels and vehicles in the city's long-range capital expenditure plans, to replace and improve the existing fleet of gasoline and diesel powered vehicles. Initiate a policy to make its fleet among the cleanest in the North Bay by:

¹⁷ Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2013. Plan Bay Area.

- Purchasing electric vehicles wherever possible, and especially for stop-and-go units such as parking meter readers.
- Purchasing electric or hybrid electric fleet vehicles for general staff use, especially for building inspectors and other uses primarily within the city.
- Purchasing alternative fuel vehicles, such as natural gas, as the existing diesel-powered fleet is replaced. Alternatively, purchase diesel vehicles only if they meet or exceed emission specifications for available natural gas fuel vehicles.
- Purchasing biodiesel fuel for use by the city diesel truck fleet.
- As possible, use lo-NO_x fuel additives, such as Purinox, in all diesel vehicles.
- **OSC-J-3:** Reduce particulate matter emissions from wood burning appliances through implementation of the city's Wood Burning Appliance code.

Santa Rosa City Code

Applicable performance standards related to air quality from Santa Rosa City Code 20-30.090 are provided below:

- **Air emissions.** No visible dust, gasses, or smoke shall be emitted, except as necessary for the heating or cooling of structures, and the operation of motor vehicles on the site.
- **Dust.** Activities that may generate dust emissions (e.g., construction, grading, commercial gardening, and similar operations) shall be conducted to limit the emissions beyond the site boundary to the maximum extent feasible. Appropriate methods of dust management shall include the following, subject to approval by the City Engineer.
 - 1 Scheduling. Grading shall be designed and grading activities shall be scheduled to ensure that repeat grading will not be required, and that completion of the dust-generating activity (e.g., construction, paving or planting) will occur as soon as possible.
 - 2 Operations during high winds. Clearing, earth-moving, excavation operations or grading activities shall cease when the wind speed exceeds 25 miles per hour averaged over 1 hour.
 - 3 Limiting the area of disturbance. The area disturbed by clearing, demolition, earth-moving, excavation operations or grading shall be minimized at all times.
 - 4 Dust control. Fugitive dust emissions shall be controlled by watering a minimum of two times each day, paving or other treatment of permanent on-site roads and construction roads, the covering of trucks carrying loads with dust content, and/or other dust-preventive measures (e.g., hydroseeding, etc.).
 - 5 Revegetation. Graded areas shall be revegetated as soon as possible, but within no longer than 30 days, to minimize dust and erosion. Disturbed areas of the construction site that are to remain inactive longer than three months shall be seeded and watered until grass cover is grown and maintained.
 - 6 Fencing. Appropriate fences or walls shall be constructed to contain dust within the site as required by the City Engineer.
- **Odor.** No obnoxious odor or fumes shall be emitted that are perceptible without instruments by a reasonable person at the property line of the site.

3.2.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G, to determine whether impacts related 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) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?
- c) Expose sensitive receptors to substantial pollutant concentrations?
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Approach to Analysis

Emission factors represent the emission rate of a pollutant over a given time or activity; for example, grams of NO_x per vehicle mile traveled (VMT) or grams of NO_x per horsepower hour of equipment operation. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMFAC mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. Activity levels are a measure of how active a piece of equipment is and can be represented as the amount of material processed, elapsed time that a piece of equipment is in operation, horsepower of a piece of equipment used, or VMT per day. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The CalEEMod Versions 2016.3.1 and 2016.3.2 were developed in collaboration with the South Coast Air Quality Management District (SCAQMD) and other air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with construction and operation from a variety of land uses.

The modeling follows BAAQMD guidance where applicable from its CEQA Air Quality Guidelines. The models used in this analysis are summarized as follows:

- Construction criteria pollutant and precursor emissions: CalEEMod, Version 2016.3.1¹⁸
- Operational criteria pollutant and precursor emissions: CalEEMod, Version 2016.3.2
- Construction TAC emission air dispersion assessment: EPA AERMOD dispersion model (Versions 15181 and 16216r)

The following criteria air pollutants and precursors are assessed in this analysis:

¹⁸ At the time construction emissions were estimated, CalEEMod Version 2016.3.1 was the latest version of CalEEMod.

- Reactive organic gases (ROG)
- Nitrogen oxides (NO_x)
- Carbon monoxide (CO)
- Sulfur dioxide (SO₂)
- Particulate matter less than 10 microns in diameter (PM₁₀)
- Particulate matter less than 2.5 microns in diameter (PM_{2.5})

Note that the project would emit ozone precursors ROG and NO_x. However, the project would not directly emit ozone, since it is formed in the atmosphere during the photochemical reactions of ozone precursors.

The project would emit ultrafine particles. However, there is currently no standard separate from the PM_{2.5} standards for ultrafine particles and there is no accepted methodology to quantify or assess the significance of such particles.

Construction

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from both on-site and off-site activities. On-site emissions consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM₁₀) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Off-site emissions result from motor vehicle exhaust from delivery vehicles, worker traffic and road dust (PM₁₀ and PM_{2.5}).

Schedule

The project would construct a total of 676 units and associated improvements and amenities, and is anticipated to occur over a series of five phases. Construction was conservatively assumed to take place 6 days per week and 8 hours per day. For the purpose of a conservative analysis, construction of Phase 1 was assumed to begin in June 2020 for the purposes of modeling.¹⁹ In order to present a reasonable “worst-case” scenario, it was assumed that Phase 1 would include demolition, site preparation, and grading for the entire area to be developed. Phase 1 includes the building construction of 202 of 676 proposed units, asphalt paving, and an approximately 23,800-square-foot community recreational center. The remaining 474 proposed units and related improvements and amenities are expected to be built out over four additional phases would be constructed from 2022 to 2027, based on market conditions and other considerations. As a conservative estimate, it was assumed that a construction phase would occur every calendar year, with Phase 2 beginning in January of 2022. CalEEMod defaults were used for the durations and construction equipment for Phases 2 through 5. The full construction schedule is shown in Table 3.2-7.

¹⁹ Emissions will reduce through time as regulations become stricter and vehicles become more fuel efficient. Modeling using a 2020 start date would therefore provide a conservative analysis.

Table 3.2-7: Construction Schedule

Construction Phase	Assumed Construction Schedule (approximate)		Working Days
	Start Date	End Date	
Phase 1 (Site work for the entire project site and building construction of 202 dwelling units and an approximately 23,800-square-foot community recreational center building)			
Demolition ¹ (Not Needed)	06/01/2020	06/15/2020	13
Site Preparation	06/16/2020	06/30/2020	13
Grading	07/01/2020	09/30/2020	79
Building Construction	10/01/2020	09/30/2021	313
Paving	10/01/2021	10/31/2021	26
Architectural Coating	11/01/2021	11/30/2021	26
Phase 2 (Building construction of 119 dwelling units)			
Building Construction	01/01/2022	08/22/2022	200
Paving	08/23/2022	09/02/2022	10
Architectural Coating	09/3/2022	09/14/2022	10
Phase 3 (Building construction of 119 dwelling units)			
Building Construction	01/01/2023	08/22/2023	200
Paving	08/23/2023	09/02/2023	10
Architectural Coating	09/03/2023	09/14/2023	10
Phase 4 (Building construction of 118 dwelling units)			
Building Construction	01/01/2024	08/20/2024	200
Paving	08/21/2024	08/31/2024	10
Architectural Coating	09/01/2024	09/12/2024	10
Phase 5 (Building construction of 118 dwelling units)			
Building Construction	01/01/2025	08/21/2025	200
Paving	08/22/2025	09/02/2025	10
Architectural Coating	09/03/2025	09/13/2025	10
Notes: ¹ The Glass Fire destroyed all existing structures, and removal of all debris is anticipated to occur before construction activities commence. Source: FirstCarbon Solutions (FCS) and CalEEMod, based on project-specific information.			

Equipment Tiers and Emission Factors

Equipment tiers refer to a generation of emission standards established by the EPA and ARB that apply to diesel engines in off-road equipment. The “tier” of an engine depends on the model year and horsepower rating; generally, the newer a piece of equipment is, the greater the tier it is likely to have. Excluding engines greater than 750 horsepower, Tier 1 engines were manufactured generally between 1996 and 2003. Tier 2 engines were manufactured between 2001 and 2007. Tier 3 engines

were manufactured between 2006 and 2011. Tier 4 engines are the newest and some incorporate hybrid electric technology; they were manufactured after 2007.

Construction emissions are generally calculated as the product of an activity factor and an emission factor. The activity factor for construction equipment is a measure of how active a piece of equipment is and can be represented as the amount of material processed, elapsed time that a piece of equipment is in operation, horsepower of a piece of equipment used, or the amount of fuel consumed in a given amount of time. The emission factor relates the process activity to the amount of pollutant emitted. Examples of emission factors include grams of emissions per miles traveled and grams of emissions per horsepower-hour. The operation of a piece of equipment is tempered by its load factor which is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. This analysis uses the CalEEMod default load factors for off-road equipment.

On-site Off-road Equipment

The CalEEMod contains built-in inventories of construction equipment for a variety of land use construction projects that incorporate estimates of the number of equipment, their age, their horsepower, and emission control equipment tier mix from which rates of emissions are developed. These inventories were developed based on construction surveys for several land use projects. Table 3.2-8 presents the assumed construction equipment to be used on the project as derived from CalEEMod. The CalEEMod default emission control equipment tier mix was used in this analysis for the estimation of unmitigated emissions from on-site construction equipment.

Table 3.2-8: Project Construction Equipment Assumptions for all Phases of Construction

Phase Name	Equipment	Number	Hours per Day	Horsepower	Load Factor
Phase 1					
Demolition (Not Needed)	Concrete/Industrial Saws	1	8	81	0.73
	Excavators	3	8	158	0.38
	Rubber Tired Bulldozers	2	8	247	0.40
Site Preparation	Rubber Tired Bulldozers	3	8	247	0.40
	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	2	8	158	0.38
	Graders	1	8	187	0.41
	Rubber Tired Bulldozers	1	8	247	0.40
	Scrapers	2	8	367	0.48
	Tractors/Loaders/Backhoes	2	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.20

Phase Name	Equipment	Number	Hours per Day	Horsepower	Load Factor
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48
Phase 2					
Building Construction	Cranes	1	6	231	0.29
	Forklifts	1	6	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	1	6	97	0.37
	Welders	3	8	46	0.45
Paving	Cement and Mortar Mixers	1	6	9	0.56
	Pavers	1	6	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	1	7	80	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48
Phase 3					
Building Construction	Cranes	1	6	231	0.29
	Forklifts	1	6	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	1	6	97	0.37
	Welders	3	8	46	0.45
Paving	Cement and Mortar Mixers	1	6	9	0.56
	Pavers	1	6	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	1	7	80	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48
Phase 4					
Building Construction	Cranes	1	6	231	0.29

Phase Name	Equipment	Number	Hours per Day	Horsepower	Load Factor
	Forklifts	1	6	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	1	6	97	0.37
	Welders	3	8	46	0.45
Paving	Cement and Mortar Mixers	1	6	9	0.56
	Pavers	1	6	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	1	7	80	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48
Phase 5					
Building Construction	Cranes	1	6	231	0.29
	Forklifts	1	6	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	1	6	97	0.37
	Welders	3	8	46	0.45
Paving	Cement and Mortar Mixers	1	6	9	0.56
	Pavers	1	6	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	1	7	80	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

Source: CalEEMod and FirstCarbon Solutions (FCS). See Appendix C.

Demolition, Site Preparation, and Grading

Demolition assumptions were based on existing conditions at the time of modeling, which included approximately 14,100 square feet of buildings and approximately 68,700 square feet of hardscape. CalEEMod default equipment assumptions based on the total amount of material to be removed were used to calculate demolition emissions. However, all on-site structures were destroyed in the Glass Fire. As a result, demolition would be substantially reduced (limited to removal of charred remains of building and chimneys) and so the following is a conservative analysis of demolition emissions. During grading activities, fugitive dust can be generated from the movement of dirt on the project site. CalEEMod estimates dust from bulldozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each activity is calculated differently in CalEEMod, based on the number of acres traversed by the grading equipment.

Only some pieces of equipment are assumed to generate fugitive dust in CalEEMod. The CalEEMod model manual identifies various equipment and the acreage disturbed in an 8-hour day for each piece of equipment:

- Crawler tractors, graders, and rubber tired bulldozers: 0.5-acre per 8-hour day
- Scrapers: 1 acre per 8-hour day

Therefore, the following acres are the total quantities disturbed per day, per phase, according to the acreage disturbed quantities listed above:

- Demolition = 1 acre per day
- Site preparation = 3.5 acres per day
- Grading = 4 acres per day

Based on project-specific information, it was assumed that soil would be balanced on-site, and, therefore, there would be no material imported or exported from the project site.

Off-site On-road Vehicle Trips

Worker vehicle trips are accounted for in the construction phases based on 1.25 worker trips per piece of construction equipment. The CalEEMod model defaults for vendor trips, trip length, and vehicle fleet (all heavy-heavy duty trucks) were used. The CalEEMod model run used the default worker trip length of 10.8 miles, vendor trip length of 7.3, and the hauling trip length of 20 miles. A summary of the construction-related trips is shown in Table 3.2-9.

Table 3.2-9: Construction Off-site Trips

Activity	Construction Trips per Day		Total Construction Trips
	Worker	Vendor	Haul
Phase 1			
Demolition (no longer needed) ¹	15	0	257
Site Preparation	18	0	0
Grading	20	0	0
Building Construction	843	304	0
Paving	15	0	0
Architectural Coating	169	0	0
Phase 2			
Building Construction	86	13	0
Paving	13	0	0
Architectural Coating	17	0	0
Phase 3			
Building Construction	86	13	0
Paving	13	0	0

Activity	Construction Trips per Day		Total Construction Trips
	Worker	Vendor	Haul
Architectural Coating	17	0	0
Phase 4			
Building Construction	85	13	0
Paving	13	0	0
Architectural Coating	17	0	0
Phase 5			
Building Construction	85	13	0
Paving	13	0	0
Architectural Coating	17	0	0
Notes:			
¹ The Glass Fire destroyed all existing structures, and the remains are anticipated to be removed before construction of the project would commence.			
Source: CalEEMod and FirstCarbon Solutions (FCS). See Appendix C.			

Off-Gassing Materials

Asphalt paving and architectural coating materials used during construction would generate off-gas emissions of ROG. CalEEMod was used to estimate these off-gas ROG emissions. The data collection process determined the acres of asphalt paving required, which CalEEMod uses to determine associated ROG emissions. CalEEMod contains assumptions for application of architectural coatings that are based on the land use type and square footage of the buildings to be constructed and were used to quantify emissions. These emissions were not modeled as part of the health risk assessment, as these emissions are small compared to diesel PM emissions, which are the primary risk driver.

Operation

As described in more detail above, Phase 1 includes the building construction of 202 of 676 proposed units, asphalt paving, and an approximately 23,800-square-foot community recreational center. The remaining 474 proposed units and related improvements and amenities are expected to be built out over four additional phases from 2022 to 2027, based on market conditions and other considerations. As a conservative estimate, it was assumed that a construction phase would occur every calendar year, with Phase 2 beginning in January of 2022. As shown in Table 3.2-7, full buildout is expected in 2025 based on these construction assumptions. While full buildout is expected in 2025 based on the assumed construction schedule, all phases could become operational as early as 2023. To provide a conservative estimate, operations for the entire project were modeled assuming an operational year of 2023. Since mobile source emissions are expected to decline in future years due to more stringent regulations, using an earlier operational year provides a conservative estimate. Operational emissions are those emissions that occur when the project commences operations.

On-road Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the project site. The emissions were estimated using CalEEMod. The average daily trip generation rates for project operations were obtained from the project-specific traffic analysis performed consistent with Institute of Transportation Engineers (ITE) Manual, 9th Edition. Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. Pass-by trips are not diverted from another roadway. The CalEEMod defaults for pass-by trips were used for this analysis. The percentages of primary and pass-by trips are based on data developed from similar projects in the ITE Manual. The CalEEMod default round trip lengths for an urban setting for the Air Basin portion of Sonoma County were used in this analysis. The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline and diesel-powered vehicles). The CalEEMod default vehicle fleet mix was used for the Air Basin portion of Sonoma County was used for this analysis.

Architectural Coatings

Paints release VOC emissions during application and drying. The buildings in the project would be repainted on occasion. The project would be required to utilize architectural coatings that comply with the BAAQMD Regulation 8, Rule 3—Architectural Coatings. This rule governs the manufacture, distribution, and sale of architectural coatings and limits the ROG content in paints and paint solvents.

Consumer Products

Consumer products are various solvents used in non-industrial applications, which emit VOCs during their product use. “Consumer Product” means a chemically formulated product used by household and institutional consumers, including but not limited to: detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. It does not include other paint products, furniture coatings, or architectural coatings.²⁰ The default emission factor developed for CalEEMod was used.

Landscape Equipment

CalEEMod estimated the landscaping equipment using the default assumptions in the model.

Electricity

Electricity used by the project (for lighting, etc.) would result in emissions from the power plants that would generate electricity distributed on the electrical power grid. Electricity emissions estimates are used only in the GHG analysis. CalEEMod defaults were used to estimate these emissions from the project.

²⁰ California Air Resources Board (ARB). 2011. Regulation for Reducing Emissions from Consumer Products. Website: www.arb.ca.gov/consprod/regs/fro%20consumer%20products%20regulation.pdf. Accessed May 1, 2017.

CalEEMod has three categories for electricity consumption: electricity that is impacted by Title 24 regulations, non-Title 24 electricity, and lighting. The Title 24 uses are defined as the major building envelope systems covered by California's Building Code Title 24 Part 6, such as space heating, space cooling, water heating, and ventilation. Lighting is separate since it can be both part and not part of Title 24. Since lighting is not considered as part of the building envelope energy budget, CalEEMod does not consider lighting to have any further association with Title 24 references in the program. Non-Title 24 includes everything else such as appliances and electronics. Total electricity consumption in CalEEMod is divided into the three categories. The percentage for each category is determined by using percentages derived from the CalEEMod default electricity intensity factors. The percentages are then applied to the electricity consumption to result in the values used in the analysis.

Natural Gas

The project would generate emissions from the combustion of natural gas for water heaters, heat, etc. CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24. CalEEMod defaults were used.

Toxic Air Contaminants

TACs are air pollutants in miniscule amounts in the air that, if a person is exposed to them, could increase the chances of experiencing health problems. Exposures to TAC emissions can have both chronic long-term (over a year or longer) and acute short-term (over a period of hours) health impacts. Construction-period TAC emissions could contribute to increased health risks to nearby residents or sensitive receptors.

An assessment was made of the potential health impacts to surrounding sensitive receptors resulting from TAC emissions during project constructions. The TACs of greatest concern are those that cause serious health problems or affect many people. Health problems can include cancer, respiratory irritation, nervous system problems, and birth defects. Some health problems occur soon after a person inhales TACs. These immediate effects may be minor, such as watery eyes; or they may be serious, such as life-threatening lung damage. Other health problems may not appear until many months or years after a person's first exposure to the TAC. Cancer is one example of a delayed health problem.

Fine particle pollution or PM_{2.5} describes particulate matter that is 2.5 micrometers in diameter and smaller—one-thirtieth the diameter of a human hair. Fine particle pollution can be emitted directly or formed secondarily in the atmosphere. PM_{2.5} health impacts are important because their size can be deposited deeply in the lungs causing respiratory effects.

For purposes of this analysis, exhaust emissions of DPM, are represented as exhaust emissions of PM_{2.5}. Studies indicate that DPM poses the greatest health risk among airborne TACs. A 10-year research program conducted by the ARB demonstrated 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. DPM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

Odors

The impact analysis qualitatively evaluates the types of land uses proposed to evaluate whether major sources of anticipated odors would be present and, if so, whether those sources would likely generate objectionable odors.

Specific Thresholds of Significance

Consistency with Air Quality Plan

The applicable air quality plan is BAAQMD's 2017 Bay Area Clean Air Plan, which identifies measures to:

- Reduce emissions and reduce ambient concentrations of air pollutants;
- Safeguard public health by reducing exposure to the air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution; and
- Reduce GHG emissions to protect the climate.

The project would be consistent with the Bay Area Clean Air Plan if it would support the plan's goals, include applicable control measures from the Bay Area Clean Air Plan, and would not disrupt or hinder implementation of any control measures from the plan. Consistency with this plan is the basis for determining whether the project would conflict with or obstruct implementation of an applicable air quality plan.

Ambient Air Quality

In June 2010, the BAAQMD adopted thresholds of significance to assist lead agencies in the review of projects under CEQA. These thresholds (see Table 3.2-10) were designed to establish the level at which the BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on BAAQMD's website and included in the BAAQMD's current CEQA Guidelines (updated May 2017).²¹

CEQA requires the analysis of potential adverse effects of a project on the environment. Potential effects of the environment on a project are legally not required to be analyzed or mitigated under CEQA, except in rare, limited circumstances not applicable to this project.

Table 3.2-10: BAAQMD Thresholds of Significance

Pollutant	Construction Thresholds Average Daily Emissions	Operational Thresholds	
		Average Daily Emissions	Annual Average Emissions
Criteria Air Pollutants			
ROG	54 pounds/day	54 pounds/day	10 tons/year
NO _x	54 pounds/day	54 pounds/day	10 tons/year

²¹ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 22, 2017.

Pollutant	Construction Thresholds Average Daily Emissions	Operational Thresholds	
		Average Daily Emissions	Annual Average Emissions
PM ₁₀	82 pounds/day	82 pounds/day	15 tons/year
PM _{2.5}	54 pounds/day	54 pounds/day	10 tons/year
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards for New Sources			
Excess Cancer Risk	10 per one million	10 per one million	
Chronic or Acute Hazard Index	1.0	1.0	
Incremental annual average PM _{2.5}	0.3 µg/m ³	0.3 µg/m ³	
Health Risks and Hazards for Sensitive Receptors (Cumulative from All Sources within 1,000-Foot Zone of Influence) and Cumulative Thresholds for New Sources			
Excess Cancer Risk	100 per 1 million		
Chronic Hazard Index	10.0		
Annual Average PM _{2.5}	0.8 µg/m ³		
Accidental Release of Acutely Hazardous Air Pollutants			
Accidental Release of Acutely Hazardous Air Pollutants	None	Storage or use of acutely hazardous materials locating near receptors or new receptors locating near stored or used acutely hazardous materials considered significant	
Notes: ROG = reactive organic gas NO _x = nitrogen oxides PM ₁₀ = course particulate matter or particulates with an aerodynamic diameter of 10 µm or less PM _{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5 µm or less Source: Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may_2017-pdf.pdf?la=en . Accessed September 22, 2017.			

Where available, the significance thresholds established by the applicable air quality management or air pollution control district may be relied upon to make the significance determinations. While the final determination of whether or not a project is significant is within the purview of the lead agency pursuant to CEQA Guidelines Section 15064(b), BAAQMD recommends that its quantitative and qualitative air pollution thresholds be used to determine the significance of project-related emissions. The City, in its discretion and based on scientific evidence supporting the use thereof, has determined it is appropriate to utilize BAAQMD's recommended thresholds for purposes of identifying the project's potential air quality impacts.

Air Quality-related Health Risk

The air quality-related health risk significance thresholds utilized for this assessment were derived from the BAAQMD significance thresholds as project-specific thresholds. These thresholds are:

- Cancer Risk: 10 in one million
- Non-cancer Hazard Index: 1.0
- Annual PM_{2.5}: 0.3 µg/m³

Impact Evaluation

Consistency with Air Quality Management Plan

Impact AIR-1: **The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.**

The Air Basin is designated nonattainment for State standards for 1-hour and 8-hour ozone, 24-hour respirable particulate matter (PM₁₀), annual PM₁₀, and annual fine particulate matter (PM_{2.5}).²² A project would be determined to conflict with or obstruct implementation of a regional air quality plan if it would result in substantial new regional emissions not foreseen in the air quality planning process. Regional emissions forecasts in the air quality plan are based on population and employment forecasts based on city and county general plans.

As discussed in Section 3.9, Land Use and Planning, the project proposes to develop a State-licensed Community Care Facility for the elderly (along with employee housing units and related improvements and amenities) and therefore is not considered a residential use for the purposes of determining density. Rather, under the City's Zoning Code, the Community Care Facility use is evaluated in terms of intensity of use over the entire 68-acre project site. The General Plan does allow single-family and multi-family units in each of the land use designations that cover the site. However, since the project is a Continuing Care Retirement Community, the intensity of use over the entire 68-acre site is evaluated rather than individual land use designations. Since the project is generally consistent with land use designations and applicable General Plan goals and policies, it can be viewed as consistent overall with the General Plan including the projected population assumptions. The City General Plan allows continuing care facilities in all residential land use designations and zoning designations. The applicant is proposing to develop community care cottages and apartments, employee housing, and a care center. As discussed in Section 3.11, Population and Housing, the project would be consistent with the buildout projections of Santa Rosa General Plan 2035 for the project area. General Plan 2035 estimates the City at buildout under the Growth Management Program to have 96,295 housing units and a population of 237,000 at buildout by 2035, which represents an increase of 60,201 residents and 27,181 housing units citywide over the next 18 years. The project would account for 1.6 percent of the expected population growth by 2035 anticipated under General Plan 2035 and 2.5 percent of the anticipated growth in housing units. As such, the project's anticipated population has already been accounted for in regional air quality planning, and thus would not result in a substantial unplanned

²² Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. January. Website: <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>. Accessed May 22, 2017.

increase in population, employment, or associated regional growth in terms of vehicle miles traveled. Accordingly, it would not conflict with or obstruct implementation of the air quality plan.

To address regional air quality standards, the BAAQMD has adopted several air quality policies and plans, and in April 2017, the BAAQMD adopted the 2017 Clean Air Plan (2017 CAP),²³ which serves as the regional air quality plan (AQP) for the Air Basin for attaining federal ambient air quality standards. The primary goals of the 2017 CAP are to protect public health and protect the climate. The 2017 CAP acknowledges that BAAQMD's two stated goals of protection are closely related. As such, the 2017 CAP identifies a wide range of control measures intended to decrease criteria pollutant emissions. In September 2010, the BAAQMD adopted their final Bay Area 2010 Clean Air Plan (2010 CAP),²⁴ which became the most recent ozone plan for the Air Basin. The 2010 CAP identifies how the Air Basin would achieve compliance with the State 1-hour air quality standard for ozone, and how the region will reduce ozone from transporting to other basins downwind of the Air Basin. The 2017 CAP updates BAAQMD's 2010 CAP, pursuant to air quality planning requirements defined in the California Health and Safety Code.

The 2017 CAP also accounts for projections of population growth provided by ABAG and vehicle miles traveled provided by the MTC, and identifies strategies to bring regional criteria pollutant emissions into compliance with federal and State air quality standards. A project would be determined to conflict with or obstruct implementation of the 2017 CAP if it would result in substantial new regional emissions not foreseen in the air quality planning process.

BAAQMD does not provide a numerical threshold of significance for project-level consistency analysis. Therefore, the following criteria are used for determining a project's consistency with the AQP:

- **Criterion 1:** Does the project support the primary goals of the AQP?
- **Criterion 2:** Does the project include applicable control measures from the AQP?
- **Criterion 3:** Does the project disrupt or hinder implementation of any AQP control measures?

Criterion 1: Support Primary Goals of AQP

The primary goals of the 2017 CAP, the current AQP to date, are to:

- Attain air quality standards;
- Reduce population exposure to unhealthy air and protecting public health in the Bay Area; and
- Reduce greenhouse gas emissions and protect the climate.

As discussed in Section 3.9—Land Use and Planning, the project would comply with the applicable policies of the Santa Rosa General Plan 2035 and would provide employment opportunities and housing, consistent with the goals of the General Plan 2035. As discussed under Impact AIR-2, the project would not significantly contribute to cumulative nonattainment pollutant violations after incorporation of Mitigation Measure (MM) AIR-2, required to ensure implementation and

²³ Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. Website: http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed May 24, 2017.

²⁴ Bay Area Air Quality Management District (BAAQMD). 2010. 2010 Multi Pollutant Clean Air Plan. Website: <http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans>. Accessed May 24, 2017.

enforcement of dust control measures. As discussed under Impact AIR-3, below, the project would not expose sensitive receptors to substantial pollutant concentrations after incorporation of mitigation measures. Further, as discussed under Impact AIR-4, the project would not create objectionable odors affecting a substantial number of people. Therefore, the project is consistent with Criterion 1 with incorporation of identified mitigation.

Criterion 2: Include Applicable AQP Control Measures

The 2017 CAP contains 85 control measures aimed at reducing criteria pollutant emissions at the local, regional, and global levels. Along with the traditional stationary, area, mobile source, and transportation control measures, the 2017 CAP contains a number of control measures designed to protect the climate and promote mixed use, compact development to reduce vehicle emissions and human exposure to pollutants from stationary and mobile sources.²⁵ The 2017 CAP also includes an account of the implementation status of control measures identified in the 2010 CAP.

None of the stationary source control measures contained in the 2017 CAP are directly applicable to the project, which is a proposed community care facility development that would not contain stationary sources. In addition, none of the mobile source measures or land use and local impact measures contained in the 2017 CAP directly apply to the project. The project would be consistent with Transportation Control Measures (TCMs) D-2 and D-3 of the 2017 CAP as follows:

- TCM D-2 requires that the project improve pedestrian facilities and encourage walking by funding projects that improve pedestrian access to transit, employment and major activity centers. Improvements may include sidewalks/paths, benches, reduced street width, reduced intersection turning radii, crosswalks with activated signals, curb extensions/bulbs, buffers between sidewalks and traffic lanes, and street trees.
- TCM D-3 requires that the project support and promote land use patterns, policies, and infrastructure investments that support higher density mixed-use, residential and employment development near transit in order to facilitate walking, bicycling and transit use.

The nearest existing bus stop to the project site is located on Sonoma Highway and Melita Road, less than 0.1-mile north of the project site. In addition, transportation services, such as a shuttle bus, would be available to take residents to shops, appointments and community activities. The project would provide walkways and nature paths that offer residents a greenway along Melita Creek on the south side and throughout the project site, as well as provide a pedestrian/bicycle path as a segment of the Sonoma Valley trail along its project frontage.

Implementation of the project would provide employment opportunities and housing near similar, existing land uses. The project site is surrounded by large lot single-family residential uses (west), Sonoma Highway (north); Oakmont Village (east); and Channel Drive and Trione-Annadel State Park

²⁵ Bay Area Air Quality Management District (BAAQMD) 2017. Final 2017 Clean Air Plan. Website: http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed May 24, 2017.

(south). For the reasons listed above, the project would be consistent with TCM D-2 and D-3 of the 2017 CAP.

The 2010 CAP contained Energy and Climate measures that were carried forward in the 2017 CAP. Relative to the Energy and Climate measures contained in the 2017 CAP, the project would be consistent with the following applicable measures:

- **Energy Efficiency:** The applicant would be required to conform to the energy efficiency requirements of the California Building Standards Code, also known as Title 24, as applied to residential land uses. Specifically, the project would implement the requirements of the most recent Building Energy Efficiency Standards, which is the current version of Title 24. The 2016 Building Energy Efficiency Standards (which are updated on an approximately 3-year cycle) went into effect on January 1, 2017, which continue to improve upon the 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. For each year of construction, in both newly constructed buildings and alterations to existing buildings, the 2013 Standards (for residential and nonresidential buildings) were expected to reduce the growth in electricity use by 555.5 gigawatt-hours per year and to reduce the growth in peak electrical demand by 148.4 megawatts on a statewide basis. The 2013 Standards were also expected to reduce the growth in natural gas use by 7.04 million therms per year beyond the prior 2008 Standards. Overall, the 2013 Standards used 25 percent less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 Standards. For comparison purposes, single-family homes built to the new 2016 standards will use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards. In 30 years, California will have saved enough energy to power 2.2 million homes, reducing the need to build 12 additional power plants.
- **Renewable Energy.** Pacific Gas and Electric Company (PG&E) would provide electricity and natural gas service to the project site. PG&E facilities include nuclear, natural gas, and hydroelectric facilities. PG&E's 2012 power mix consisted of nuclear generation (21.0 percent), large hydroelectric facilities (11.0 percent) and renewable resources (19.0 percent), such as wind, geothermal, biomass, and small hydro. The remaining portion came from natural gas (27.0 percent), and unspecified sources (21.0 percent). In addition to PG&E, Sonoma Clean Power could also supply power to the project site.
- **Urban Heat Island Mitigation and Shade Tree Planting.** The project would incorporate landscaping, including shade trees, throughout the developed portion of the project site, as well as preserving a significant number (approximately 75 percent) of existing on-site trees. The incorporated landscaping would provide shade, absorb carbon, improve oxygenation, slow stormwater runoff, and reduce the heat island effect. The project would develop the homes into the hillside to ensure the natural curvature of the hill and ridgeline is maintained. The extent, scale, and massing of the buildings would also be designed in a way that allows the natural hillside and creek side backdrops to be expressed throughout the development.

In summary, the project would not conflict with any applicable measures under the 2017 CAP and is therefore consistent with Criterion 2.

Criterion 3: Disrupt or Hinder Implementation of any AQP Control Measures

The project would not preclude extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementation of any AQP control measures. Specifically, as discussed under Criterion 2, above, the project would be consistent with TCMs D-2 and D-3 of the 2017 CAP. Furthermore, the project includes construction of a segment of the Sonoma Valley Trail. The project is therefore consistent with Criterion 3.

Conclusion

The project would be consistent with Criteria 1, 2, and 3; therefore, the project would not conflict with the implementation of the AQP. The project would be required to implement the mitigation measures identified under Impact AIR-2 and Impact AIR-3, specifically MM AIR-2 and MM AIR-3, to be consistent with Criterion 1, thereby ensuring that applicable air quality standards are attained. The impact would be less than significant after incorporation of identified mitigation.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM AIR-2 and MM AIR-3.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Cumulative Criteria Pollutant Emissions Impacts

Impact AIR-2:	The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard.
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In developing thresholds of significance for criteria air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively significant. As such, if a project exceeds the identified thresholds of significance, its emissions would be significant in terms of both individual - and cumulative-level impacts, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Thus, this impact analysis and discussion is related to the individual - and cumulative-level effect of the project's regional criteria air pollutant emissions.

The region is non-attainment for the federal and State ozone standards, the State PM₁₀ standards, and the federal and State PM_{2.5} standards. Potential impacts would result in exceedances of State or federal standards for NO_x or particulate matter (PM₁₀ and PM_{2.5}). NO_x emissions are of concern because of potential health impacts from exposure to NO_x emissions during both construction and operation and as a precursor in the formation of airborne ozone. PM₁₀ and PM_{2.5} are of concern during construction, because of the potential to emit exhaust emissions from the operation of off-road construction equipment and fugitive dust during earth-disturbing activities (construction fugitive dust).

ROG emissions are also important, because of their participation in the formation of airborne ozone. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children.

By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The nonattainment status of regional pollutants is a result of past and present development within the Air Basin, and this regional impact is a cumulative impact. In other words, new development projects (such as the proposed project) within the Air Basin would contribute to this impact only on a cumulative basis. No single project would be sufficient in size, by itself, to result in nonattainment of regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively significant when taken in combination with past, present, and future development projects.

The cumulative analysis focuses on whether a specific project would result in cumulatively significant emissions. According to Section 15064(h)(4) of the CEQA Guidelines, the existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that the project's incremental effects would be cumulatively significant. Rather, the determination of cumulative air quality impacts for construction and operational emissions is based on whether the project would result in regional emissions that exceed the BAAQMD regional thresholds of significance for construction and operations on a project level. The thresholds of significance represent the allowable amount of emissions each project can generate without generating a cumulatively significant contribution to regional air quality impacts. Therefore, a project that would not exceed the BAAQMD thresholds of significance on the project level also would not be considered to result in a cumulatively significant impact with regard to regional air quality and would not be considered to result in a significant impact related to cumulative regional air quality.

Construction

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. DPM contributes to elevated PM₁₀ and PM_{2.5} concentrations and is a TAC. Construction activities associated with the project would include demolition, site preparation, grading, paving, building construction, and architectural coatings. Generally, the most substantial air pollutant emissions would be dust generated from site preparation and grading. If uncontrolled, these emissions could lead to both health and nuisance impacts. Construction activities would also temporarily create emissions of equipment exhaust and other air contaminants.

Construction Fugitive Dust

Project construction would require general site clearing and grading/earthwork activities. Emissions from construction activities are generally short-term in duration, but may still cause adverse air quality impacts. The project would generate emissions from construction equipment exhaust, worker travel, and fugitive dust as PM₁₀ and PM_{2.5}. PM₁₀ is of concern during construction because of the potential to emit fugitive dust during earth-disturbing activities (construction fugitive dust). During construction (grading), fugitive dust (PM₁₀) would be generated from site grading and other

earth-moving activities. The majority of this fugitive dust would remain localized and would be deposited near the project site.

The BAAQMD does not have a quantitative significance threshold for fugitive dust. BAAQMD's Air Quality Guidelines recommend that projects determine the significance for fugitive dust through application of BMPs. The project does not currently include any dust control measures, resulting in the potential for a significant impact; therefore, the fugitive dust control measures identified in the BAAQMD's Air Quality Guidelines must be included to reduce localized dust impacts to less than significant. MM AIR-2 requires the application of BMPs recommended by the BAAQMD for fugitive dust control. Therefore, with mitigation, short-term construction impacts associated with violating an air quality standard or contributing substantially to an existing or projected air quality violation would be less than significant.

Construction Emissions: ROG, NO_x, PM₁₀, and PM_{2.5}

The project would be constructed in five phases, with construction of Phase 1 assumed to begin in June 2020 and be completed by November 2021 for analyses purposes. To conduct a conservative analysis, the remaining four phases were assessed assuming construction from 2022 to 2025. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required by the CEQA Guidelines. The construction emissions modeling parameters and assumptions are summarized above under Approach to Analysis, and the complete modeling results are provided in Appendix C.

Table 3.2-11 summarizes the unmitigated construction-generated emissions in annual tons. Table 3.2-12 provides the unmitigated average daily emissions rates per construction year for the project.

Table 3.2-11: Construction Criteria Air Pollutants Emissions (Annual Tons)

Construction Phase	Tons/Year			
	ROG	NO _x	PM ₁₀ (Exhaust)	PM _{2.5} (Exhaust)
Phase 1 (2020–2021)				
Demolition	0.02	0.25	0.01	0.01
Site Preparation	0.03	0.28	0.01	0.01
Grading	0.18	1.99	0.09	0.08
Building Construction (2020)	0.29	2.31	0.05	0.05
Building Construction (2021)	0.77	6.22	0.13	0.12
Paving	0.03	0.17	0.01	0.01
Architectural Coating	2.53	0.03	0.00	0.00
<i>Phase 1 Total Emissions</i>	<i>3.85</i>	<i>11.24</i>	<i>0.30</i>	<i>0.28</i>
Phase 2 (2022)				
Building Construction	0.20	1.41	0.06	0.06
Paving	0.00	0.03	0.00	0.00
Architectural Coating	1.18	0.01	0.00	0.00

Construction Phase	Tons/Year			
	ROG	NO _x	PM ₁₀ (Exhaust)	PM _{2.5} (Exhaust)
<i>Phase 2 Total Emissions</i>	<i>1.39</i>	<i>1.45</i>	<i>0.06</i>	<i>0.06</i>
Phase 3 (2023)				
Building Construction	0.19	1.30	0.05	0.05
Paving	0.00	0.03	0.00	0.00
Architectural Coating	1.18	0.01	0.00	0.00
<i>Phase 3 Total Emissions</i>	<i>1.37</i>	<i>1.34</i>	<i>0.05</i>	<i>0.05</i>
Phase 4 (2024)				
Building Construction	0.17	1.23	0.05	0.04
Paving	0.00	0.03	0.00	0.00
Architectural Coating	1.17	0.01	0.00	0.00
<i>Phase 4 Total Emissions</i>	<i>1.35</i>	<i>1.27</i>	<i>0.05</i>	<i>0.05</i>
Phase 5 (2025)				
Building Construction	0.16	1.16	0.04	0.04
Paving	0.00	0.03	0.00	0.00
Architectural Coating	1.17	0.01	0.00	0.00
<i>Phase 5 Total Emissions</i>	<i>1.34</i>	<i>1.20</i>	<i>0.04</i>	<i>0.04</i>
Total Construction Emissions	9.30	16.49	0.51	0.48
Notes: Calculations use unrounded numbers. ROG = reactive organic gases NO _x = oxides of nitrogen PM ₁₀ = particulate matter 10 microns in diameter PM _{2.5} = particulate matter 2.5 microns in diameter Source: CalEEMod Output (see Appendix C).				

Table 3.2-12: Construction Criteria Air Pollutants Emissions (Average Daily Rate)

Parameter	Air Pollutants			
	ROG	NO _x	PM ₁₀ ¹	PM _{2.5} ¹
Total Emissions (tons/year)	9.30	16.49	0.51	0.48
Total Emissions (lbs/year)	18,606	32,982	1,016	960
Average Daily Emissions (lbs/day) ²	13.78	24.43	0.75	0.71
Significance Threshold (lbs/day)	54	54	82	54
Exceeds Significance Threshold?	No	No	No	No
Notes: ¹ Exhaust only ² Calculated by dividing the total number of pounds by the total 1,350 working days of construction for the duration of construction (2020-2025). Calculations use unrounded totals. ROG = reactive organic gases; NO _x = oxides of nitrogen				

Parameter	Air Pollutants			
	ROG	NO _x	PM ₁₀ ¹	PM _{2.5} ¹
PM ₁₀ = particulate matter 10 microns in diameter PM _{2.5} = particulate matter 2.5 microns in diameter lbs = pounds Source of thresholds: BAAQMD 2017 Source of emissions: CalEEMod Output (see Appendix C).				

As shown in Table 3.2-12, unmitigated emissions associated with construction of all five phases of the project are well below the BAAQMD's thresholds of significance in regard to ROG, NO_x, exhaust PM₁₀, and exhaust PM_{2.5}. Therefore, cumulative construction impacts associated with violating an air quality standard or contributing substantially to an existing or projected air quality violation in terms of criteria air pollutant emissions specific to ROG, NO_x, PM₁₀, and PM_{2.5} would be less than significant.

Operational

Operational CO Hotspot

Localized high levels of CO (CO hotspot) are associated with traffic congestion and idling or slow moving vehicles. The BAAQMD recommends a screening analysis to determine if a project's operation has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is not necessary. The project would result in a less than significant impact to air quality for local CO if the following screening criteria are met:

- **Screening Criterion 1:** The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans; or
- **Screening Criterion 2:** The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; or
- **Screening Criterion 3:** The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Screening Criterion 1

Sonoma County Transportation Authority (SCTA) serves as the Congestion Management Agency (CMA) for Sonoma County. As the CMA, SCTA must prepare, consistent with state law, a Congestion Management Program (CMP) and update it every 2 years. The CMP is meant to outline SCTA's strategies for managing the performance of the regional transportation within the County. A CMP must contain several components: traffic level of service standards for state highways and principal arterials; multi-modal performance measures to evaluate current and future systems; a 7-year capital program of projects to maintain or improve the performance of the system or mitigate the regional impacts of land use projects; a program to analyze the impacts of land use decisions; and a travel demand element that promotes transportation alternatives to the single-occupant vehicle. As indicated in Section 3.14, Transportation, the project would be consistent with the CMP; accordingly, the project is consistent with the screening Criterion 1.

Screening Criteria 2 and 3

The project-specific Traffic Impact Study (included as Appendix I) identified peak-hour traffic volumes for 10 intersections affected by the project. As identified in the Traffic Impact Study, the maximum peak-hour intersection volume would occur at the Sonoma Highway/Calistoga Road intersection in the “Future Plus Project” scenario during the PM peak-hour. The estimated cumulative-with-project traffic volume at the Sonoma Highway/Calistoga Road intersection is 3,727 PM peak-hour trips. This level of peak-hour trips is substantially less than BAAQMD’s second and third screening criteria of 44,000 vehicles per hour and 24,000 vehicles per hour, respectively. The project would not result in an increase of traffic volumes at affected intersections to more than 44,000 vehicles per hour and would not increase traffic volumes at affected intersections to more than 24,000 where vertical or horizontal mixing is substantially limited; accordingly, the project is consistent with screening Criteria 2 and 3.

Since the project would meet all three screening criteria, the project’s impact related to air quality for local CO emissions would be less than significant and no specific CO dispersion modeling is necessary.

Operational Emissions: ROG, NO_x, PM₁₀, and PM_{2.5}

As previously discussed, the pollutants of concern include ROG, NO_x, PM₁₀, and PM_{2.5}. Project operational emissions were estimated using CalEEMod Version 2016.3.2. The trip generation rates are from the Traffic Impact Analysis Report prepared for the project by W-Trans (Appendix I). In order to provide the most conservative estimate, 2023 was used as the operational year for all phases. Assumptions and parameters are provided in Section 3.2.4, Methodology, and are provided in Appendix C. The operational emissions were modeled for summer and winter seasons. The highest results for each pollutant are presented in Table 3.2-13. The unmitigated daily operational emissions would be less than significant.

Table 3.2-13: Daily Operational Air Pollutant Emissions (Maximum Daily Rate)

Emissions Source	Pounds per Day			
	ROG	NO _x	PM ₁₀	PM _{2.5}
Area	27.25	0.65	0.31	0.31
Energy	0.20	1.70	0.14	0.14
Mobile	7.59	32.76	20.93	5.75
Total Operational Emissions	35.04	35.10	21.37	6.20
Thresholds of Significance	54	54	82	54
Exceeds Significance Threshold?	No	No	No	No
Notes: ROG = reactive organic gases; NO _x = nitrous oxides PM ₁₀ = particulate matter 10 microns or less in diameter PM _{2.5} = particulate matter 2.5 microns or less in diameter The highest emissions occur during the summer modeling run for ROG. The highest emissions occur during the winter modeling run for NO _x , PM ₁₀ , and PM _{2.5} . Calculations use unrounded totals. Source of Emissions: CalEEMod Output (see Appendix C) Source of Thresholds: BAAQMD 2017				

As shown in Table 3.2-14, the annual operational emissions are below the BAAQMD’s thresholds of significance. The impact resulting from unmitigated annual operational emissions would be less than significant.

Table 3.2-14: Annual Operational Air Pollutant Emissions (Annual Rate)

Emissions Source	Tons per Year			
	ROG	NO _x	PM ₁₀	PM _{2.5}
Area	4.82	0.06	0.03	0.03
Energy	0.04	0.31	0.02	0.02
Mobile	1.19	5.70	3.56	0.98
Total Operational Emissions	6.05	6.07	3.61	1.04
Thresholds of Significance	10	10	15	10
Exceeds Significance Threshold?	No	No	No	No
Notes: ROG = reactive organic gases; NO _x = nitrous oxides PM ₁₀ = particulate matter 10 microns or less in diameter PM _{2.5} = particulate matter 2.5 microns or less in diameter Source of Emissions: CalEEMod Output (see Appendix C) Source of Thresholds: BAAQMD 2017				

As indicated in Table 3.2-13 and Table 3.2-14, the project would not result in operational-related air pollutants or precursors that would exceed BAAQMD’s thresholds of significance, indicating that on-going project operations would not be considered to have the potential to generate a significant quantity of air pollutants. Therefore, cumulative operational impacts associated with violating an air quality standard or contributing substantially to an existing or projected air quality violation in terms of criteria air pollutant emissions would be less than significant.

Conclusion

As shown in Table 3.2-12, unmitigated emissions associated with construction of all five phases of the project are well below the BAAQMD’s thresholds of significance. Therefore, the project would not exceed the BAAQMD thresholds of significance during construction. As indicated in Table 3.2-13 and Table 3.2-14 total emissions from operation of the project would not exceed BAAQMD thresholds. Emissions associated with the project would not result in a cumulatively considerable net increase of any criteria pollutant during either construction or operations. However, per MM AIR-2, the fugitive dust control measures identified in the BAAQMD’s Air Quality Guidelines would be required to be implemented during construction of the project in order to reduce localized dust impacts. The impact would be less than significant after incorporation of MM AIR-2.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

- MM AIR-2** During construction, the following air pollution control measures shall be implemented, and shown clearly on under the heading of General Notes on plan sets submitted for grading permits:
- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day, or more as needed.
 - All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
 - All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
 - All vehicle speeds on unpaved roads and surfaces shall be limited to 15 miles per hour.
 - All roadways, driveways, and sidewalks shall be paved as soon as possible.
 - Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
 - All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
 - A publicly visible sign shall be posted on all street facing elevations that provides contact information, including a telephone number and email address of the General Contractor for complaints related to dust or other construction activities. This person shall respond and take corrective action within 2 days of a complaint. The BAAQMD's phone number shall also be provided on the same sign to ensure compliance with applicable regulations.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Sensitive Receptors

Impact AIR-3: **The proposed project would not expose sensitive receptors to substantial pollutant concentrations.**

This impact addresses whether the project would expose sensitive receptors to asbestos, construction-generated fugitive dust (PM₁₀ and PM_{2.5}), construction-generated DPM, operational-related TACs, or operational CO hotspots. The modeling assumptions and methodology for the Health Risk Assessment are provided in Appendix C.

The BAAQMD considers a sensitive receptor to be any facility or land use that includes members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly,

and people with illnesses. If a project is likely to be a place where people live, play, or convalesce, it should be considered a receptor. It should also be considered a receptor if sensitive individuals are likely to spend a significant amount of time there. Examples of receptors include residences, schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, and medical facilities. As a congregate facility, the project itself is a sensitive receptor. The closest non-project sensitive receptors include residences located directly adjacent to the project site near the intersection of Susan Road and Brand Road and residences east of the project site located along Stone Bridge Road within Oakmont Village. All other residences within Oakmont Village are located at a greater distance and therefore consideration of the closest sensitive receptors is appropriately protective of those located elsewhere in Oakmont Village.

Potential air quality impacts arise when sources of air pollutants and sensitive receptors are located near one another. Localized impacts to sensitive receptors generally occur in one of two ways:

1. A (new) source of air pollutants is located close to existing sensitive receptors;
2. A (new) sensitive receptor is located near an existing source of air pollutants.²⁶

To address this impact, the City has determined, in its discretion and based on scientific evidence in support of the use thereof, to utilize the quantitative thresholds provided in the 2017 BAAQMD Guidelines for this assessment.

Construction

Localized Fugitive Dust

Activities associated with site preparation and construction would generate short-term emissions of fugitive dust resulting in increased dust fall and locally elevated levels of PM₁₀ and PM_{2.5} downwind of construction activity. Construction dust has the potential for creating a nuisance at nearby properties. As addressed in Impact AIR-2, MM AIR-2 is included to ensure that the current BMPs would be implemented to reduce fugitive dust emissions from construction activities to less than significant. Implementation of MM AIR-2 by the project would ensure impacts related to localized fugitive dust would be reduced to less than significant.

Estimation of Project-Level Construction DPM Emissions

The DPM construction emissions (as PM_{2.5} exhaust emissions) were estimated using CalEEMod Version 2016.3.1. The on-site DPM emissions would be generated by off-road construction equipment. The off-site DPM emissions would be generated by haul truck and worker vehicle traffic along Sonoma Highway West. Table 3.2-15 summarizes annual construction PM_{2.5} emissions without and with mitigation measures.

²⁶ CEQA analysis is focused on the potential impacts of the project on the environment; accordingly, analysis related to this localized impact is provided for informational purposes only.

Table 3.2-15: Project DPM (as PM_{2.5} Exhaust) Construction Emissions

Phases	On-site DPM (grams/m ² -sec)	On-site PM _{2.5} Fugitive Dust (grams/m ² -sec)	Off-site DPM From Sonoma Highway West to project (grams/sec)	Off-site PM _{2.5} Fugitive Dust (grams/sec)
Annual Construction Emissions (No Mitigation)				
Phase 1 (2020)	1.00E-07	6.37E-08	7.45E-05	6.06E-04
Phase 1 (2021)	5.29E-08	0.00E+00	7.38E-05	2.29E-03
Phase 2 (2022)	1.27E-07	0.00E+00	4.40E-06	2.06E-04
Phase 3 (2023)	4.04E-07	0.00E+00	1.65E-05	6.69E-06
Phase 4 (2024)	6.95E-08	0.00E+00	6.05E-06	2.16E-04
Phase 5 (2025)	1.13E-07	0.00E+00	5.03E-06	1.83E-04
Annual Construction Emissions (Tier IV Mitigation for Phase 1, Phase 2 and Phase 3)				
Phase 1 (2020)	6.80E-09	6.37E-08	7.45E-05	6.06E-04
Phase 1 (2021)	6.28E-09	0.00E+00	7.38E-05	1.17E-03
Phase 2 (2022)	4.63E-08	0.00E+00	4.40E-06	1.06E-04
Phase 3 (2023)	1.48E-07	0.00E+00	1.65E-05	6.69E-06
Source: Appendix C.				

Air Dispersion Modeling

An air dispersion model is a mathematical formulation used to estimate the air quality impacts at specific locations (receptors) surrounding a source of emissions given the rate of emissions and prevailing meteorological conditions. The air dispersion model applied in this assessment was the EPA AERMOD (Versions 15181 and 16216r) air dispersion model that is approved by the BAAQMD for air dispersion assessments. Specifically, the AERMOD model was used to estimate levels of air emissions at sensitive receptor locations from the project's construction and operational PM_{2.5} exhaust and paved dust emissions. The use of the AERMOD model provides a refined methodology for estimating construction impacts by utilizing long-term, measured representative meteorological data for the project site and a representative construction schedule.

The urban dispersion option was used to describe the air dispersion in the local vicinity of the project site. The air dispersion model assessment used meteorological data from Sonoma County Airport, which is 10.3 miles northwest of the project site. The working schedule was conservatively assumed to be 8 hours per day and 6 days per week.

Receptor locations within the AERMOD model were placed at locations of existing residences surrounding the project site. To evaluate the project's localized construction impacts, sensitive receptor height should be taken into account at the point of maximum impact. The BAAQMD does not provide the recommended receptor height. However, the California Office of Environmental Health

Hazard Assessment (OEHA) Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments recommends selecting a receptor height from 0 to 1.8 meters, which will result in the highest predicted downwind concentration. The analysis assumed 1.8 meters as the receptor height.

The emissions from the on-site construction exhaust source were assumed to be emitted at a height of 5 meters above ground to account for the top of the equipment exhaust stack where the emissions are released to the atmosphere and the increase in the height of the emissions due to its heated exhaust. The off-site construction vehicle emissions were also included in the assessment and were represented in the AERMOD model as a line volume source with a release height of 3.1 meters for the DPM truck vehicles. It was assumed that all the construction vehicles travel from Sonoma Highway to the project site.

The construction of Phase 1 would take place in 2020 and 2021, and Phase 2 to 5 would occur each year thereafter (see Table 3.2-7). For each phase, one area emission source was used to represent the project's construction emissions for that construction phase at the location of the phase construction within the project site. The construction area source represented the generation of on-site construction DPM emissions (as PM_{2.5} exhaust) from the on-site construction equipment. In addition to the locations of existing residences, the project is for senior residents; therefore, the phases that have been constructed would become future sensitive receptors as other phases are under construction. For example, when Phase 2 is under construction, residents of units built in Phase 1 would become new sensitive receptors.

Therefore, because different construction phases would impact various sensitive receptors, the analysis considered several scenarios, including the following:

- **Scenario 1:** impacts on existing off-site sensitive receptors from construction in 2020 to 2025;
- **Scenario 2:** impacts on existing off-site sensitive receptors and Phase 1 future on-site sensitive receptors (senior residents) from construction in 2022 to 2025;
- **Scenario 3:** impacts on existing off-site sensitive receptors and Phase 1 and 2 future on-site sensitive receptors (senior residents) from construction in 2023 to 2025;
- **Scenario 4:** impacts on existing off-site sensitive receptors and Phase 1, 2, and 3 future on-site sensitive receptors (senior residents) from construction in 2024 to 2025; and
- **Scenario 5:** impacts on existing off-site sensitive receptors and Phase 1, 2, 3, and 4 future on-site sensitive receptors (senior residents) from construction in 2025.

Estimation of Cancer Risks

The BAAQMD has developed a set of guidelines for estimating cancer risks that provide adjustment factors that emphasize the increased sensitivities and susceptibility of young children to exposures to TACs.²⁷ These adjustment factors include age-sensitivity weighting factors, age-specific daily breathing rates, and age-specific time-at-home factors. The recommended method for the

²⁷ Bay Area Air Quality Management District (BAAQMD). 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines. Website: http://www.baaqmd.gov/~media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en.

estimation of cancer risk for off-site sensitive receptors is shown in the equations below with the cancer risk adjustment factors provided in Table 3.2-16 for various sensitive/residential receptors (infant, child, and adult) over the construction period. A lifetime exposure is assumed over the time period from the 3rd trimester of pregnancy to the duration of the construction. For purposes of estimating cancer risks for the adult receptors within the project, the factors shown in Table 3.2-16 for sensitive receptor-adults were used to estimate cancer risks.

$$\text{Cancer Risk} = C_{\text{DPM}} \times \text{Inhalation Exposure Factor}$$

Where:

Cancer Risk = Total individual excess cancer risk defined as the cancer risk a hypothetical individual faces if exposed to carcinogenic emissions from a particular source for specified exposure durations; this risk is defined as an excess risk because it is above and beyond the background cancer risk to the population; cancer risk is expressed in terms of risk per million exposed individuals.

C_{DPM} = Period average DPM air concentration calculated from the air dispersion model in $\mu\text{g}/\text{m}^3$

Inhalation is the most important exposure pathway to impact human health from DPM and the inhalation exposure factor is defined as follows:

$$\text{Inhalation Exposure Factor} = \text{CPF} \times \text{EF} \times \text{ED} \times \text{AAF}/\text{AT}$$

Where:

CPF = Inhalation cancer potency factor for the TAC: $1.1 (\text{mg}/\text{kg}\cdot\text{day})^{-1}$ for DPM

EF = Exposure frequency (days/year)

ED = Exposure duration (years of construction)

AAF = set of age-specific adjustment factors that include age sensitivity factors (ASF), daily breathing rates (DBR), and time at home factors (TAH)—see Table 3.2-16

AT = Averaging time period over which exposure is averaged (days)

The OEHHA-recommended values for the various cancer risk parameters shown in the equation above are provided in Table 3.2-16.

Table 3.2-16: BAAQMD Exposure Assumptions for Cancer Risk during Construction

Receptor Type	Exposure Frequency		Exposure Duration (years)	Age Sensitivity Factors	Time at Home Factor (%)	Daily Breathing Rate ⁽¹⁾ (l/kg-day)
	Hours/day	Days/year				
Sensitive/Residential—Infant						
3 rd Trimester	24	350	0.25	10	85	361
0–2 years	24	350	2	10	85	1,090

Receptor Type	Exposure Frequency		Exposure Duration (years)	Age Sensitivity Factors	Time at Home Factor (%)	Daily Breathing Rate ⁽¹⁾ (l/kg-day)
	Hours/day	Days/year				
Sensitive Receptor—Child						
3–16 years	24	350	6	3	72	572
Sensitive Receptor—Adult						
> 16 to 30 years	24	350	6	1	73	261

Notes:

⁽¹⁾ The daily breathing rates recommended by the BAAQMD for sensitive/residential receptors assume the 95th percentile breathing rates for all individuals less than 2 years of age and 80th percentile breathing rates for all older individuals. (l/kg-day) = liters per kilogram body weight per day

Sources: Appendix C.

Bay Area Air Quality Management District (BAAQMD). 2016. Air Toxics NSR [New Source Review] Program Health Risk Assessment (HRA) Guidelines. Website: http://www.baaqmd.gov/~media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en. Accessed September 23, 2017 and December 10, 2019.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Project Risk Assessment Guidelines: The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February. Website: <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>. Accessed September 23, 2017 and December 10, 2019.

Estimation of Non-Cancer Hazards

An evaluation of the potential non-cancer effects of chronic chemical exposures was also conducted. Adverse health effects are evaluated by comparing the annual receptor concentration of each chemical compound with the appropriate reference exposure level (REL). Available RELs promulgated by the OEHHA were considered in the assessment.

Risk characterization for non-cancer health hazards from TACs is expressed as a hazard index (HI). The HI is a ratio of the predicted concentration of the project's emissions to a concentration considered acceptable to public health professionals, termed the REL.

To quantify non-carcinogenic impacts, the hazard index approach was used.

$$HI = C_{ann}/REL \quad (EQ-3)$$

Where:

HI = chronic hazard index

C_{ann} = annual average concentration of TAC as derived from the air dispersion model ($\mu\text{g}/\text{m}^3$)

REL = reference exposure level above which a significant impact is assumed to occur ($\mu\text{g}/\text{m}^3$)

The hazard index assumes that chronic exposures to TACs adversely affect a specific organ or organ system (toxicological endpoint) of the body. For each discrete chemical exposure, target organs presented in regulatory guidance were used. To calculate the hazard index, each chemical concentration or dose is divided by the appropriate toxicity REL. For compounds affecting the same toxicological endpoint, this ratio is summed. Where the total equals or exceeds 1, a health hazard is

presumed to exist. For purposes of this assessment, the TAC of concern is DPM, for which the OEHHA has defined a REL for DPM of 5 µg/m³. The principal toxicological endpoint assumed in this assessment was through inhalation.

Estimation of PM_{2.5} Hazards

The BAAQMD's guidance also includes a significance threshold for PM_{2.5} based on recent studies that show health impacts from exposure to this pollutant. The construction emissions of PM_{2.5} incorporated into this assessment included DPM (as PM_{2.5} exhaust) and fugitive dust. Fugitive dust PM_{2.5} is accounted for through the application of BMPs that minimize emissions of fugitive dust during construction. The operation emissions of PM_{2.5} incorporated into this assessment included DPM, emissions from brake wear, tire wear, and paved road dust.

Estimates of Health Risks and Hazards from Project Construction

The estimated health and hazard impacts at the maximum impacted off-site sensitive receptor from the project's construction emissions are provided in Table 3.2-17. The maximum impacted off-site sensitive receptor (MIR) was found at an existing residence located approximately 50 feet northwest of the site, near the intersection of Susan Road and Brand Road.

Table 3.2-17: Estimated Health Risks and Hazards during Construction—Unmitigated

Health Impact Metric	Cancer Risk ⁽⁴⁾ (risk per million)	Chronic Non-Cancer Hazard Index ⁽⁵⁾	Annual PM _{2.5} Concentration (µg/m ³)
Risks and Hazards at the MIR: Infant⁽¹⁾			
Infants Health Risk Assessment (HRA) Scenario 1	24.7	0.06	0.16
Infants HRA Scenario 2	15.3	0.06	0.16
Infants HRA Scenario 3	18.4	0.06	0.16
Infants HRA Scenario 4	20.2	0.06	0.16
Infants HRA Scenario 5	6.6	0.06	0.16
Risks and Hazards at the MIR: Child ⁽²⁾	5.8	0.06	0.16
Risks and Hazards at the MIR: Adult ⁽³⁾	0.9	0.06	0.16
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Individual Source Threshold?	Yes (Infants)	No	No

Notes:

¹ The MIR for infants varies because the construction activities move under each phase. Among the five HRA scenarios, the MIR for infants is a residence located approximately 50 feet northwest of the project site at the intersection of Susan Road and Brand Road.

² The MIR for children is a residence located approximately 50 feet northwest of the project site at the intersection of Susan Road and Brand Road.

³ The location of the MIR is at the location of the highest receptor location either on-site or off-site from all phases and construction duration of 6 years. The MIR for adults is a residence located approximately 50 feet northwest of the project site at the intersection of Susan Road and Brand Road.

⁴ The cancer risk at the MIR is estimated by construction emissions from all five phases and the exposure duration is 6 years.

⁵ Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as PM_{2.5} exhaust) by the REL of 5 µg/m³.

Source: Appendix C.

As shown in Table 3.2-17, the cancer risks for children and adults, non-cancer hazard index and PM_{2.5} impacts for infants, children, and adults at the MIR would not exceed the BAAQMD's recommended thresholds of significance. However, the cancer risks for infants in Scenarios 1 through 4 exceed the threshold of significance for cancer risk. Therefore, mitigation measures are required.

Table 3.2-18 summarizes the project's estimated cancer risks and hazard impacts at the MIR from the project's construction emissions with implementation of MM AIR-3.

Table 3.2-18: Estimated Health Risks and Hazards during Construction—Mitigated

Health Impact Metric	Cancer Risk ⁽⁴⁾ (risk per million)	Chronic Non-Cancer Hazard Index ⁽⁵⁾	Annual PM _{2.5} Concentration (µg/m ³)
Risks and Hazards at the MIR: Infant⁽¹⁾			
Infants HRA Scenario 1	3.5	0.06	0.07
Infants HRA Scenario 2	4.3	0.06	0.07
Infants HRA Scenario 3	7.1	0.06	0.07
Infants HRA Scenario 4	9.4	0.06	0.07
Infants HRA Scenario 5	6.6	0.06	0.07
Risks and Hazards at the MIR: Child ⁽²⁾	1.9	0.06	0.07
Risks and Hazards at the MIR: Adult ⁽³⁾	0.3	0.06	0.07
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Individual Source Threshold?	No	No	No
Notes: ¹ MIR for infants varies because the construction activities move under each phase. Among the five HRA scenarios, the maximum off-site impacted sensitive receptor for infants is a residence located approximately 50 feet northwest of the project site at the intersection of Susan Road and Brand Road. ² Maximum impacted off-site sensitive receptor for children is a residence located approximately 50 feet northwest of the project site at the intersection of Susan Road and Brand Road. ³ The location of the maximum impacted adult sensitive receptor is at the location of the highest receptor location either on-site or off-site from all phases and construction duration of 6 years. The MIR for adults is a residence located approximately 50 feet northwest of the project site at the intersection of Susan Road and Brand Road. ⁴ The cancer risk at the MIR is estimated by construction emissions from all five phases and the exposure duration is 6 years. ⁵ Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as PM _{2.5} exhaust) by the REL of 5 µg/m ³ . Source: Appendix C.			

As noted in Table 3.2-18, the project's construction emissions would not exceed the BAAQMD's significance threshold after implementation of MM AIR-3 at the MIR. Therefore, with implementation of MM AIR-3, the project's construction emissions would not result in significant health impacts to sensitive infant receptors.

Asbestos

Structures to be demolished sometimes contain asbestos-containing materials (ACM). All structures were destroyed in the Glass Fire. Therefore, no buildings would be demolished as a part of this project. The Department of Conservation, Division of Mines and Geology (DMG) published a guide for generally identifying areas that are likely to contain naturally occurring asbestos. The associated DMG map indicates that there are several locations within Sonoma County that are likely to contain naturally occurring asbestos; however, none of these sites are located in the vicinity of the project site.²⁸

Estimates of Health Risks and Hazards from Project Operation

The project involves operation of a continuing care retirement community. The project is designed for senior residential uses, and there would be no on-site TAC source during operation. Unlike warehouses or distribution centers, the daily vehicle trips generated by the project would be generated by auto vehicles. Auto cars usually combust gasoline, which has relatively low emissions of DPM. Therefore, consistent with direction from the air quality staff from BAAQMD, this assessment does not provide an operational health risk analysis, and the project would not result in significant health impacts during operation.

Operational CO Hotspot

As addressed in Impact AIR-2, the project would not create a CO hotspot and would result in a less than significant impact for to air quality for local CO.

Cumulative Health Risks at the Maximum Impacted Receptor

For this project, the cumulative impact assessment quantified the cumulative impacts from TAC emission sources located within 1,000 feet of the project site in addition to the maximum TAC emissions from the project. The MIR during project construction was determined to be an existing residence located approximately 50 feet northwest of the project site. Therefore, the cumulative health impacts were estimated at this location.

The BAAQMD provides multiple tools for use in screening potential sources of TACs. These tools are:

- **Surface Street Screening Tables.** The BAAQMD pre-calculated potential cancer risks and PM_{2.5} concentration increases for each county within their jurisdiction 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 receptors. There is no roadway that generates more than 10,000 trips per day or more than 1,000 trucks per day located within 1,000 feet of project boundary.
- **Freeway Screening Analysis Tool.** The 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. The BAAQMD has also prepared a Geographic Information System (GIS) tool with cancer risks and PM_{2.5} concentrations from highways,

²⁸ Department of Conservation, Division of Mines and Geology (DMG). 2000. A General Location Guide for Ultramafic Rocks in California—Areas More likely to Contain Naturally Occurring Asbestos. August. Website: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf. Accessed May 22, 2017.

which has been updated more recently than the previously mentioned Google Earth tool. The Sonoma Highway is located approximately 10 feet east of the project site.

- **Stationary Source Risk and Hazard Screening Tools.** The BAAQMD prepared a Google Earth file that contains the locations of all stationary sources within the Bay Area that have BAAQMD permits.²⁹ The BAAQMD has also prepared a GIS tool with the location of permitted sources, which has been updated more recently than the previously mentioned Google Earth tool.³⁰ For each emissions source, the BAAQMD provides conservative cancer risk and PM_{2.5} concentration increase values. Using information from both the Google Earth file and the GIS tool, there is no stationary source located within 1,000 feet of project boundary. Table 3.2-19 summarizes the cumulative health impacts.

Table 3.2-19: Cumulative Health Impacts at the MIR during Construction

Source	Source Type	Distance from Project Site	Distance from MIR (feet) ⁽¹⁾	Cancer Risk (per million)	Chronic Hazard Index	PM _{2.5} Concentration (µg/m ³)
Project						
Construction Emissions (Infant HRA Scenario 4)	Diesel Vehicles and Construction Equipment	0	50	9.4	0.06	0.07
Existing Stationary Sources (BAAQMD Plant Number)⁽²⁾						
Valley of the Moon Valero (111598)	Gas Dispensing Facility	870	1,160	0.6	0.17	0.00
Highway						
Sonoma Highway	Highway	10	100	3.7	<0.01	0.04
Cumulative Health Risks from Project Construction and Existing TAC Sources						
Cumulative Total with Project Construction				13.7	0.23	0.11
BAAQMD Cumulative Thresholds of Significance				100	10	0.8
Threshold Exceedance?				No	No	No
Notes: ⁽¹⁾ MIR is a residence located approximately 50 feet northwest of the project site. ⁽²⁾ Assumes emissions remain constant with time. MIR = maximum impacted receptor BAAQMD = Bay Area Air Quality Management District Source: Appendix C.						

²⁹ Bay Area Air Quality Management District (BAAQMD). 2012. Stationary Source Screening Analysis Tool—Marin_Sonoma_2012. Website: <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools>. Accessed November 11, 2019.

³⁰ Bay Area Air Quality Management District (BAAQMD). 2017. Permitted Stationary Sources Risk and Hazards. Permitted Stationary Sources Risk and Hazards. Website: <https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65>. Accessed November 11, 2019.

As noted above, the cumulative health impacts to the project's MIR from existing TAC emission sources located within 1,000 feet of the project boundary and the project's construction-related emissions would not exceed the BAAQMD's recommended cumulative health significance thresholds.

Cumulative Health Risks at the Project Site During Operations

The project would locate new sensitive receptors (residents) that could be subject to existing sources of TACs at the project site. However, the California Supreme Court concluded in *California Building Industry Association v. BAAQMD* that agencies generally subject to CEQA are not required to analyze the impact of existing environmental conditions on a project's future users or residents. Although impacts from existing sources of TAC emissions on sensitive receptors on the project site are not subject to CEQA, the BAAQMD recommends assessing the potential cumulative impacts from sources of TACs within 1,000 feet of a project when siting new sensitive land uses. The potential TAC risks to the project's future residents are analyzed for informational purposes below. The BAAQMD screening analysis was applied at the project site to evaluate whether existing TACs could adversely affect future residents within the planned project.

The cumulative health risk results are summarized at project buildout in Table 3.2-20.

Table 3.2-20: Summary of the Cumulative Health Impacts at the Project Site

Source	Source Type	Distance from Project Site (feet)	Cancer Risk (per million)	Chronic Hazard Index	PM _{2.5} Concentration (µg/m ³)
Existing Stationary Sources (BAAQMD Plant Number)⁽¹⁾					
Valley of the Moon Valero (111598)	Gas Dispensing Facility	870	0.7	0.17	0.00
Highway					
Sonoma Highway	Highway	10	7.1	<0.01	0.12
Project-level Health Risks					
Maximum Individual Source			7.1	0.17	0.12
BAAQMD Project-level Thresholds of Significance			10	1	0.3
Threshold Exceedance?			No	No	No
Cumulative Health Risks					
Cumulative Total			7.8	0.17	0.12
BAAQMD Cumulative Thresholds of Significance			100	10	0.8
Threshold Exceedance?			No	No	No
Notes:					
⁽¹⁾ Assumes emissions remain constant with time.					
BAAQMD = Bay Area Air Quality Management District					
N/A = not available					
Source: Appendix A.					

As shown in Table 3.2-20, the cumulative health impacts to the future on-site residents from existing TAC emission sources located within 1,000 feet of the project would not exceed the BAAQMD's cumulative or project-level significance thresholds for health risks. As previously discussed, this analysis was included for informational purposes.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM AIR-2 and the following:

- MM AIR-3** The applicant shall ensure all off-road construction equipment in excess of 50 horsepower used on-site by the developer or contractors is equipped with engines meeting the EPA Tier IV off-road engine emission standards. The construction contractor shall maintain a log of equipment use at the construction site with make, model, serial number, and certification level of each piece of construction equipment that will be available for review by the City's building inspection staff.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Objectionable Odors

Impact AIR-4: **The proposed project would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people.**

Odors can cause a variety of responses. The impact of an odor often results from interacting factors such as frequency (how often), intensity (strength), duration (time), offensiveness (unpleasantness), location, and sensory perception. Two circumstances have the potential to cause odor impacts:

- 1) A source of odors is proposed to be located near existing or planned receptors; or
- 2) A receptor land use is proposed near an existing or planned source of odor.

The BAAQMD's CEQA Air Quality Guidelines provides suggested screening distances for a variety of odor-generating land uses and operations, as shown in Table 3.2-21, which are based on distance between types of sources known to generate odor and the receptor. Projects that would site an odor source or a receptor farther than the applicable screening distance, shown in Table 3.2-21, would not result in a significant odor impact. The proposed project does not involve the type of land/operations that typically generate significant odors.

Table 3.2-21: Odor Screening Distances

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles

Land Use/Type of Operation	Project Screening Distance
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 mile
Source: Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en . Accessed September 22, 2017.	

Construction

Diesel exhaust and VOCs would be emitted during construction of the project resulting from heavy-duty construction equipment and asphalt paving activities, both of which could be objectionable odors to some populations. However, emissions would disperse rapidly from the site and construction activities would be relatively low in intensity. Therefore, it is not anticipated that construction-related activities would create objectionable odors affecting a substantial number of people. As such, construction odor impacts would be less than significant.

Operation

Project as a Potential Odor Generator

As shown in Table 3.2-21, land uses considered associated with odors include typically include agricultural operations (dairies, feedlots, etc.), landfills, wastewater treatment plants, refineries, and other types of industrial land uses. The project does not propose any of these land uses or other land uses typically associated with emitting objectionable odors. During operation of the project, potential sources of odor would primarily consist of vehicles traveling to and from the site. These occurrences would not produce a significant amount of odors; therefore, operational impacts would be less than significant.

Project as a Sensitive Receptor

The project involves the construction and operation of a single-family residential development and would have the potential to place sensitive receptors (residents) near existing or planned sources of

odors during project operations. A public records request (No. 2019-09-0301) was filed with the BAAQMD to obtain the most recent 3-year³¹ odor complaint history for the potential odor generators within the vicinity of the project site. A summary of the odor complaint history is included in Appendix C.

Based on the responses from the BAAQMD, there are no land uses within the screening distances shown in Table 3-3 of the BAAQMD's guidance that have received five or more confirmed complaints per year for the most recent 3-year period. Therefore, the uses in the vicinity of the project would not cause substantial odor impacts to the project. The project would not place sensitive receptors near an existing or planned source of odor affecting a substantial number of people. Therefore, operational odor impacts in terms of the project site as a sensitive receptor would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.2.5 - Cumulative Impacts

Criteria Pollutants

The geographic scope of the cumulative air quality analysis is the San Francisco Bay Area Air Basin, which covers all or portions of the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Sonoma, and Solano. The project site is located in the portion of Sonoma County that is part of the San Francisco Bay Area Air Basin. Air quality is impacted by topography, dominant air flows, atmospheric inversions, location, and season; therefore, using the Air Basin represents the area most likely to be impacted by air emissions. As discussed more fully within this section, regional air quality impacts are inherently cumulative in nature. The project, along with all of the cumulative projects listed in Section 3, Environmental Impact Assessment, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, would result in new air emissions during construction or operations (or both). The Air Basin is designated as nonattainment for ozone, PM₁₀, and PM_{2.5} standards. This represents an existing cumulatively significant impact with respect to these pollutants.

The project would result in air emissions related to construction fugitive dust that could contribute to the violation of BAAQMD air quality standards. MM AIR-2 is proposed, requiring the implementation of fugitive dust reduction measures during construction. Other cumulative projects listed on Table 3-1, as well as other relevant cumulative projects as required by CEQA, would also have the potential to

³¹ Odor complaint records were obtained for August 2016–September 2019, which covered the most recent 3-year period at the time Public Records Request No. 2019-06-0301 was filed with the BAAQMD.

emit construction fugitive dust and would similarly be required to implement applicable mitigation. Since it is anticipated that the project and other cumulative projects would be required to mitigate their respective fugitive dust emissions to less than significant, there would be a less than significant cumulative impact related to criteria pollutant emissions. The project would not result in air emissions that exceed any other applicable standard for criteria air pollutants.

Toxic Air Contaminants

The project may have the potential to expose sensitive receptors, mainly infants, to construction-generated DPM that would lead to exceedance of the BAAQMD thresholds for cancer risks. MM AIR-3 is proposed, requiring off-road diesel-powered construction equipment with greater than 50 horsepower to meet EPA Tier IV off-road emission standards. This mitigation would reduce DPM emissions such that the cancer risk to infants would be reduced to levels significantly below the BAAQMD thresholds. Other cumulative projects listed Section 3, Environmental Impact Assessment, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, also may have the potential to expose sensitive receptors to pollutants, in which case they would be required similarly to implement applicable mitigation. Impacts to sensitive receptors tend to be localized, so the emissions of projects listed in Table 3-1 as well as other relevant cumulative projects as required by CEQA would likely not combine with those of the project to create cumulatively significant impacts on any sensitive receptor, due to the distance of the other projects from the project site. Moreover, since it is anticipated that the project and other cumulative projects would mitigate their respective DPM emissions to less than significant, there would be a less than significant cumulative impact related to toxic air contaminant emissions.

Overall

Overall, cumulative air quality impacts would be less than significant, since the cumulative criteria pollutant and TAC emissions impacts would be less than significant with implementation of appropriate project-level mitigations.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

3.3 - Biological Resources

3.3.1 - Introduction

This section describes existing biological resources conditions in the project area as well as the relevant regulatory framework. This section also evaluates the potential impacts related to biological resources that could result from implementation of the project. Information included in this section is based, in part, on a site reconnaissance survey performed by a FirstCarbon Solutions (FCS) Biologist on June 22, 2017, and a follow-up survey conducted in October 2019; a Biological Resources Assessment prepared for the project site (included herein); and an Arborist Report (contained in Appendix D). The following comments were received during the Environmental Impact Report (EIR) Notice of Preparation (NOP) scoping period related to biological resources:

- Impacts to on-site creeks and wetlands
- Impacts to wildlife within Trione-Annadel State Park
- Impacts to vernal pools
- Impacts to wildlife corridors

3.3.2 - Environmental Setting

Records Searches and Pedestrian Survey to Identify Existing Biological Resources

A Biological Resources Assessment (BRA) included a thorough review of relevant literature followed by a reconnaissance-level field survey.

Literature Review

FCS Biologists examined existing environmental documentation for the project site and immediate vicinity within a 5-mile buffer area surrounding the project site (Exhibit 3.3-1). This documentation included the Arborist Report noted above, relevant biological studies for the area, literature pertaining to habitat requirements of special-status species potentially occurring on and/or near the site, and federal register listings, protocols, and species data provided by the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW).

FCS Biologists reviewed current United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps and aerial photographs as a preliminary analysis of the existing conditions within the project site and immediate vicinity. Information obtained from the review of the topographic maps included elevation range, general watershed information, and potential drainage feature locations. Aerial photographs provide a perspective of the most current site conditions relative to on-site and off-site land use, plant community locations, and potential locations of wildlife movement corridors. Biologists also reviewed United States Department of Agriculture soil surveys to establish if soil conditions on-site are suitable for any special-status plant species.

FCS Biologists compiled a list of threatened, endangered, and otherwise special-status species previously recorded within the general project vicinity. The list was based on a search of the CDFW's California Natural Diversity Database (CNDDB), a special-status species and plant community account database, the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered

Vascular Plants of California database, and a USFWS Information Planning and Conservation Report Search, for the Santa Rosa and Kenwood California USGS 7.5-minute topographic quadrangle maps. The database search results can be found in Appendix D. The CNDDDB Biogeographic Information and Observation System database (BIOS 5)¹ was used to determine the distance between known recorded occurrences of special-status species and the project site.

Field Survey

FCS Senior Biologist, Brian Mayerle, and Biologist, Robert Carroll, conducted a reconnaissance-level field survey on June 22, 2017. A follow-up survey of the project site was conducted in October 2019 again by Robert Carroll, and FCS Senior Biologist, Kevin Derby. The reconnaissance-level surveys were conducted on foot during daylight hours. The purpose of the survey was not to extensively search for every species occurring within the project site, but to ascertain general site conditions and identify potentially suitable habitat areas for various special-status plant and wildlife species. Special-status or unusual biological resources identified during the literature review were ground-truthed during the reconnaissance-level survey for mapping accuracy. Special attention was paid to sensitive habitats and areas potentially supporting special-status floral and faunal species.

Common plant species observed during the reconnaissance-level survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Uncommon and less familiar plants were identified off-site with the use of taxonomical guides, such as Clarke et al.², Hitchcock,³ McAuley,⁴ and Munz.⁵ Taxonomic nomenclature used in this study follows Baldwin et al.⁶ Common plant names, when not available from Baldwin et al., were taken from other regionally specific references.

Wildlife species detected during the reconnaissance-level survey by sight, calls, tracks, scat, or other signs were recorded in a field notebook. Notations were made regarding suitable habitat for those special-status species determined to potentially occur within the project site. Appropriate field guides were used to assist with species identification during surveys, such as Peterson,⁷ Reid,⁸ and Stebbins.⁹

Physical Habitat/Vegetation

Habitat is an area consisting of a combination of resources (e.g., food, cover, water) and environmental conditions (e.g., temperature, precipitation, presence, or absence of predators and competitors) that promotes occupancy by individuals of a species and enables those individuals to survive and reproduce. Thus, habitat arises from interaction among soils, hydrology, climate, and

¹ California Department of Fish and Wildlife (CDFW). 2005. Biogeographic Information and Observation System (BIOS 5). Website: <https://map.dfg.ca.gov/bios/>.

² Clarke, O.F., D. Svehla, G. Ballmer, and A. Montalvo. 2007. Flora of the Santa Ana River and Environs: With References to World Botany. Berkeley, California: Heyday Books.

³ Hitchcock, A. 1971. Manual of the Grasses of the United States in Two Volumes, Volume One. Second Edition. New York: Dover Publications, Inc.

⁴ McAuley, M. 1996. Wildflowers of the Santa Monica Mountains, 2nd edition. Canoga Park, California: Canyon Publishing Company.

⁵ Munz, P. 1974. A Flora of Southern California. Berkeley: University of California Press.

⁶ Baldwin, B. et al. 2012. The Jepson Manual: Vascular Plants of California. Berkeley: University of California Press.

⁷ Peterson, T.R. 2010. A Field Guide to Birds of Western North America, 4th Edition. Boston: Houghton Mifflin Harcourt.

⁸ Reid, F. 2006. A Field Guide to Mammals of North America, 4th Edition. Boston: Houghton Mifflin Harcourt.

⁹ Stebbins, R.C. 2003. A Field Guide to Western Reptiles and Amphibians. Third Edition. Boston: Houghton Mifflin Harcourt.

vegetation. Soils, hydrology, and climate are addressed in other sections of this Draft EIR; this habitat discussion includes information regarding vegetation.

Santa Rosa Area

Habitat communities in the San Francisco Bay Area (Bay Area) consist primarily of Mediterranean plant associations, but vary depending on microclimate. Riparian woodland and open water habitat dominate the aquatic portions of the Santa Rosa area, while non-native grassland, oak savanna, mixed forest, and redwood forest represent the majority of the land portions of the Santa Rosa area.

Project Site

Most of the 68.73-acre project site consists of non-native grassland, with small areas of valley oak woodland, and riparian habitat. Four habitat types can be found within the project site including, non-native grassland, riparian habitat, valley oak woodland, and developed/urban land. The remaining 1.73 acres of land cover consists of the stream channels of the three creeks present on-site. Exhibit 3.3-1 depicts the entire project site and biotic communities found on-site.

Non-Native Grassland

Non-native annual grassland typically occurs in the open areas of valleys and foothills throughout California. Species observed during the field survey include non-native species such as chicory (*Cichorium intybus*), sweet fennel (*Foeniculum vulgare*), rattail fescue (*Vulpia myuros*), canary grass (*Phalaris aquatica*), slender wild oats (*Avena barbata*), Italian thistle (*Carduus pycnocephalus*), yellow star thistle (*Centaurea solstitialis*), and common tarweed (*Hemizonia pungens* ssp. *pungens*). Widely scattered coyote brush (*Baccharis pilularis*) shrubs also occur throughout the grassland.

Wildlife species observed in this plant community on the project site include black-tailed jackrabbit (*Lepus californicus*), wild turkey (*Meleagris gallopavo*), northern flicker (*Colaptes auratus*), and American crow (*Corvus brachyrhynchos*). Although it is adjacent to undeveloped areas, the areas of non-native grassland on the project site are relatively disturbed, as the site has been fragmented and altered from its natural state as a result of rough grading and utility work. Given the disturbed nature of this plant community, it represents low-value habitat for special-status plants; however, non-native grassland areas may provide moderately suitable foraging habitat for special-status and non-special-status raptor and bat species. This plant community is the largest habitat within the project site and constitutes approximately 38.3 acres.

Riparian Woodland

The riparian woodland borders the southern portion of the project site along Channel Drive and the northern portion of the site along Sonoma Highway. Generally, riparian woodland habitat varies from savanna-like to forest-like stands with partially closed canopies. Tree density decreases as distance from water increases. The project site contains Valley oak (*Quercus lobata*), black oak (*Quercus kelloggii*), and coast live oak (*Quercus agrifolia*), which dominate the riparian woodland vegetation. Other species include arroyo willow (*Salix lasiolepis*) and Oregon ash (*Fraxinus latifolia*), as well as the non-native blackberry (*Rubus discolor*) and acacia (*Acacia* sp.). The riparian woodland constitutes approximately 17.6 acres of the project site.

Valley Oak Woodland

Valley oak woodland is located along the eastern boundary of the project site on both sides of Melita Creek and on the western side of the urban/developed area. This community has a relatively dense tree canopy, open shrub-dominated sub-canopy, and grassy understory. The tree canopy is dominated by valley oak, after which coast live oak, black oak, and black walnut (*Juglans nigra*) are sub-dominant species. The shrub-dominated sub-canopy consisted predominately of poison oak (*Toxicodendron diversilobum*) and creeping snowberry (*Symphoricarpos mollis*). The herbaceous understory supports several non-native annual grass species, including slender wild oat, ryegrass, and medusa head. Large trees or snags (greater than 18 inches in diameter) within or adjacent to the project site may provide suitable nesting or roosting habitat for wildlife. From a habitat perspective, the wide spacing and limited understory vegetation of the existing small trees (less than 6 inches in diameter) on the project site provide limited foraging habitat and cover for wildlife. Oak woodland constitutes approximately 5.5 acres of the project site.

Although not classified as a sensitive community under California Environmental Quality Act (CEQA), valley oaks are regulated under provisions of the Santa Rosa City Code Chapter 17-24. A valley oak having a diameter of 6 inches or greater is considered a heritage tree under Chapter 17-24-020.

Urban/Developed Land

Urban/Developed land is classified as areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported and retains no soil substrate. Developed land is characterized by permanent or semi-permanent structures, pavement, or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident because a large amount of debris or other materials have been placed upon it may also be considered urban/developed (e.g., car recycling plant, quarry). Characteristic vegetation includes un-vegetated or landscaped areas with a variety of ornamental (usually non-native) plants. Urban/Developed areas within the project site constitute approximately 5.6 acres and are concentrated toward the center of the project site, accessed from Susan Road. This 5.6-acre area was burned by the Glass Fire and only remnants of three former residences remain.

Sensitive Biological Communities

Biological communities are assemblages of organisms that live within or use a variety of habitats for their range-of-life functions. Of the habitat communities discussed above, some are further identified as sensitive biological communities. Sensitive biological communities include habitats that fulfill special functions or have special values (e.g., greater biological diversity), such as wetlands, streams, and riparian habitat. Because wildlife is a major aspect of a biological community, this discussion of sensitive biological communities describes wildlife present in such communities.

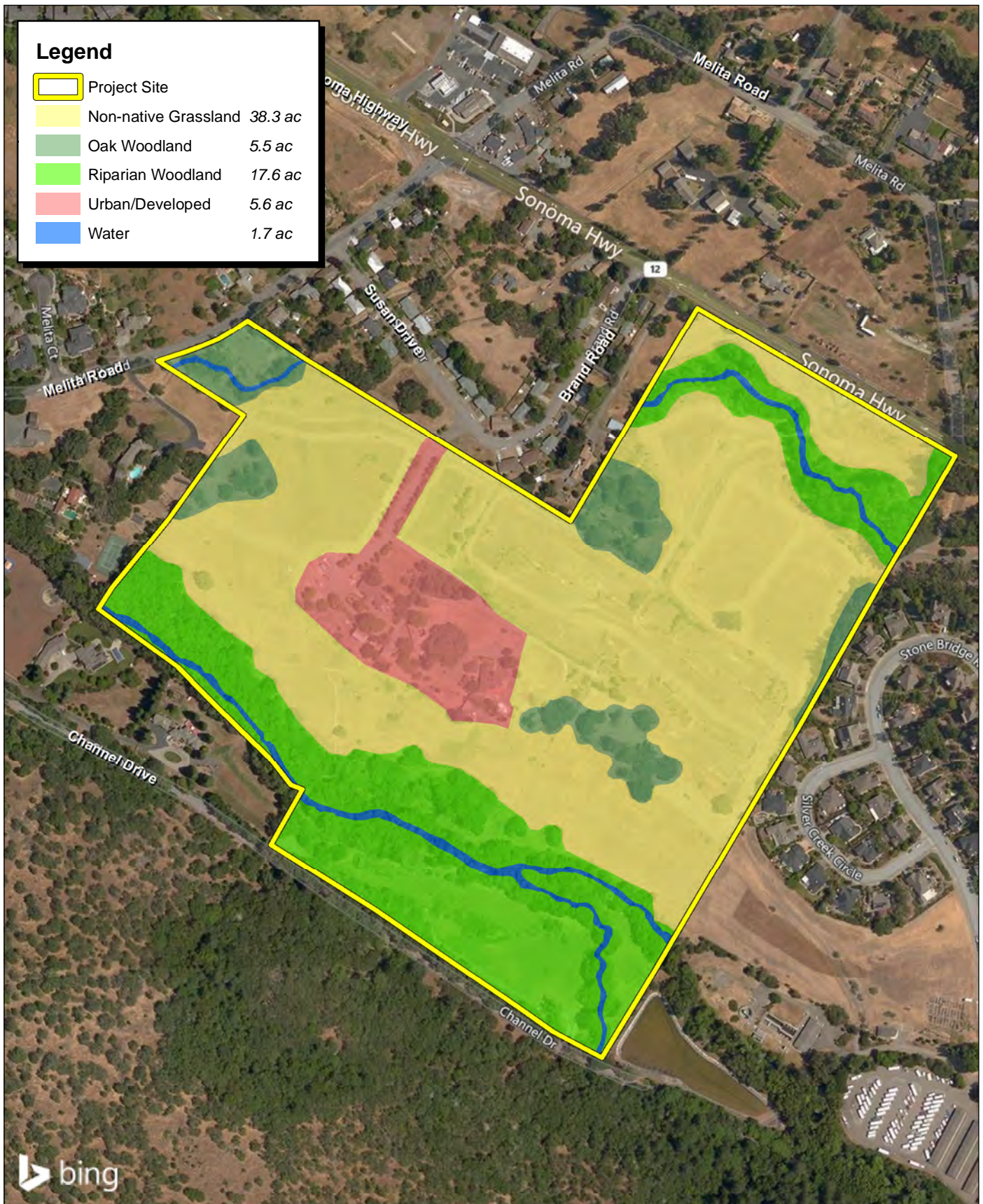
Santa Rosa Area

Sensitive biological communities in the Santa Rosa area consist primarily of features associated with a water source, such as streams, wetlands, tidal marshes, and open water habitat. In addition, because of the prevalence of special-status species in the greater Bay Area, certain biological communities such as oak savanna, scrub, coastal scrub, or dune habitat may be considered sensitive for the regional or local presence of special-status species.

Project Site

Of the physical habitat and vegetation types on the project site, riparian woodland and valley oak woodland are considered sensitive biological communities. As mentioned above, approximately 17.6 acres of riparian woodland and approximately 5.5 acres of valley oak woodland exist on the project site.

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Source: Bing Imagery

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Feet

Exhibit 3.3-1 Biotic Habitats Map

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Wetlands and Waters of the United States

Wetlands and waters of the United States and waters of the State are protected as hydrological resources, but also often provide habitat for common and special-status species. Types of water features include open water, developed open water, tidal marsh, seasonal wetland, wetlands swale, and waters.

Santa Rosa Area

Wetlands, waters of the United States, and waters of the State in the Santa Rosa area occur primarily on the edges of river tributaries and creeks because of the hydrologic characteristics associated with those types of water features.

Project Site

Types of water features on the project site include seasonal wetland and waters. The South Fork of Melita Creek is an ephemeral tributary that runs east to west through the northern area of the project site near SR-12. The South Fork of Melita Creek meets the Main Fork of Melita Creek at the western area of the site near Melita Road. Both the South and Main Forks of Melita Creek are ephemeral tributaries for the Santa Rosa Creek, located west of the project site. Oakmont Creek is a perennial stream running east to west along the southern area of the project site near Channel Drive. Annadel Creek, a tributary to Oakmont Creek, runs along the southeastern most portion of the project site. The site is well drained because of the site topography and the perennial and ephemeral creeks found on the northern, western, and southern periphery of the project site. Tributaries and creeks constitute approximately 1.7 acres of the project site and are found around the periphery of the project site. All on-site wetlands and creeks are designated as waters of the United States.

Common Species

The vegetation community and land cover types discussed above provide habitat for a limited number of local wildlife species. A small number of wildlife species were observed on or near the project site; all were common species found in urban and rural areas of Sonoma County such as wild turkey, northern flicker, and American crow. Trees within the riparian corridor at the periphery of the project site as well as tree stands that are intermixed throughout the site provide suitable habitat for nesting avian species. The species observed reflect the timing of the survey, which was conducted in the afternoon hours on June 22, 2017; many more common wildlife species are expected to utilize the project site for foraging and movement, most notably along the Oakmont and Annadel Creek corridors during the early morning and late evening hours. As noted above, the project site is fragmented with non-native grassland and surrounding habitats that may support potential foraging habitat for avian species.

Species that may occur in the river tributaries and creeks on the project site include California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), western pond turtle (*Emys marmorata*), California giant salamander (*Dicamptodon ensatus*), and red-bellied newt (*Taricha rivularis*).

Special-status Species

Habitat, whether aquatic or terrestrial, supports ecological functions and processes to preserve biological communities (i.e., wildlife) that live within it for all or a portion of their life cycle. Special-

status species, whether plants, wildlife, or fish, are considered sufficiently rare that they require special consideration and/or protection and have been or should be listed as rare, threatened, or endangered by the federal and/or state governments. The following discussion focuses on the occurrence or potential for occurrence of special-status species at the project site.

Special-Status Plants on the Project Site

Special-status plant communities are considered sensitive biological resources when federal, state, or local laws regulate their development, limited distributions, and habitat requirements of special-status plant or wildlife species that occur within them. There are no sensitive plant communities recorded on or near the project site.

The Special-status Plant Species Table (Appendix D) identifies 28 special-status plant species and CNPS sensitive species Rank 1 or 2 that have been recorded to occur within the Santa Rosa and Kenwood California topographic quadrangles, as recorded by the CNDDDB and California Native Plant Society Electronic Inventory (CNPSEI). The table also includes each species' status, required habitat, and potential to occur within the project site.

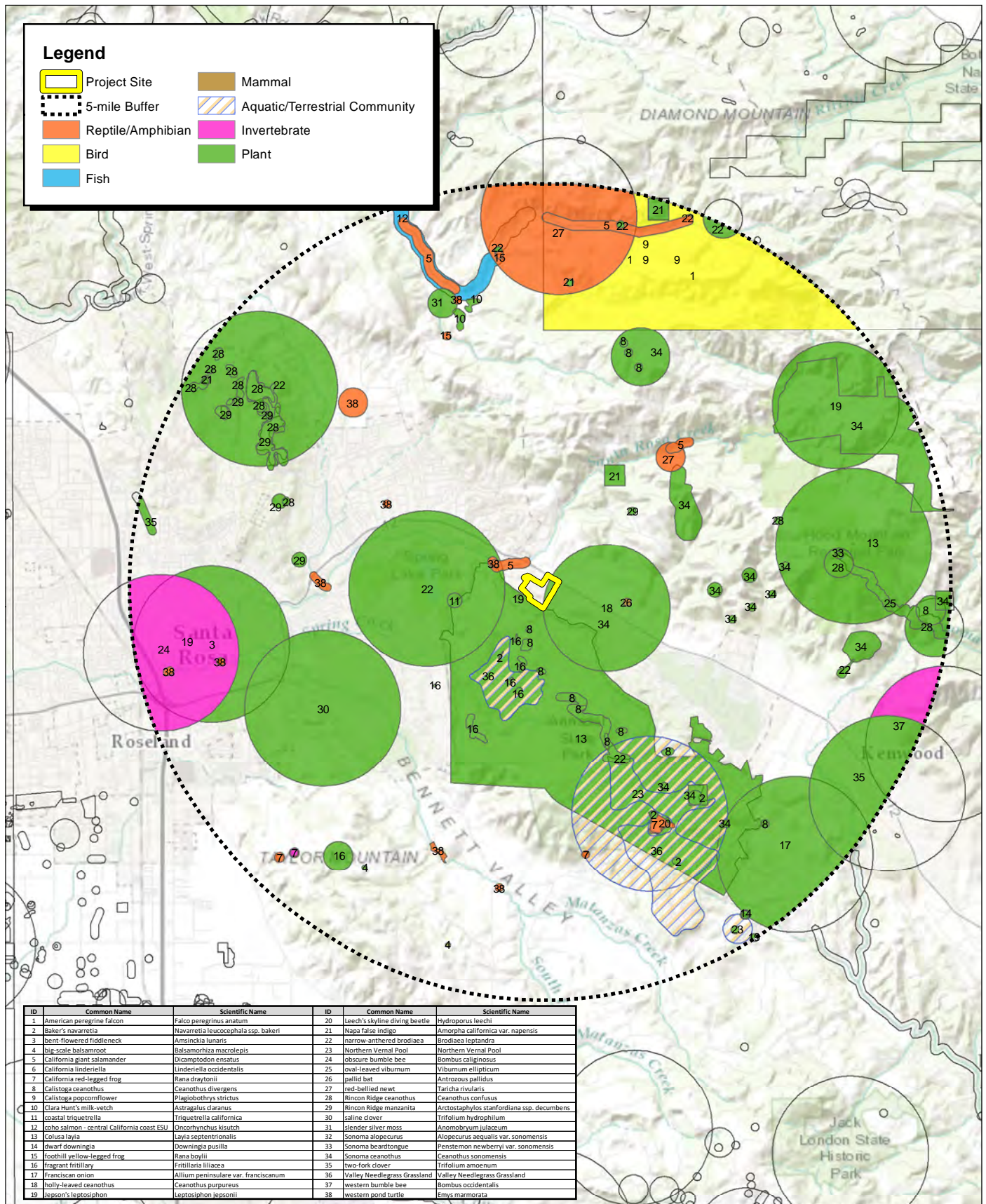
All special-status plant species have been determined unlikely to occur on-site based upon the results of the species review and the reconnaissance-level field assessment. The project site lacks suitable habitat conditions, most notably serpentine soils and rock outcroppings, to support any special-status plant species, and no special-status plant species were found on the project site. Exhibit 3.3-2 depicts recorded occurrences of special-status plant species within 5 miles of the project site.

Special-status Wildlife at the Project Site

The Special-Status Wildlife Species Table (Appendix D) identifies 17 federal and State listed threatened and/or endangered wildlife species, and State Species of Special Concern that have been recorded in the CNDDDB as occurring within the Santa Rosa and Kenwood, California topographic quadrangle. Of these, eight special-status wildlife species have the potential to occur at the project site. The table also includes each species' status, required habitat, and potential to occur within the project site. The remaining species have also been included in the table to justify their exclusion from further discussion. One species, the California red-legged frog, is listed as threatened under the Federal Endangered Species Act (FESA). The following special-status species have the potential to occur within the project site:

- California red-legged frog
- Foothill yellow-legged frog
- California giant salamander
- Western pond turtle
- Red-bellied newt
- Pallid bat (*Antrozous pallidus*)
- Birds protected by the Migratory Bird Treaty Act (MBTA):
 - White-tailed kite (*Elanus leucurus*)
 - Loggerhead shrike (*Lanius ludovicianus*)

Recorded occurrences of special-status wildlife species within 5 miles of the project site are shown in Exhibit 3.3-2.



Source: CNDBB, September, 2017

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Miles

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Exhibit 3.3-2
CNDBB Recorded
Occurrences, 5-mile radius

CITY OF SANTA ROSA • ELNOKA CCRC PROJECT
ENVIRONMENTAL IMPACT REPORT

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Amphibians

California red-legged frog

The California red-legged frog (CRLF) is a California Species of Special Concern and listed as threatened under FESA. The project site is located within the known range of the CRLF but outside its designated critical habitat. This species requires permanent or ephemeral water sources for breeding purposes. Suitable habitat (riparian woodland associated with perennial water) for CRLF is present within the project site.

No focused surveys were conducted for this species, and it was not found during field surveys. Recorded occurrences of CRLF are within 5 miles of the project site. There is a potential for this species to occur on the project site because there is suitable breeding habitat for this species present on-site.

Foothill yellow-legged frog

The foothill yellow-legged frog (FYLF) is a California Species of Special Concern. This species prefers swift flowing perennial streams for breeding purposes. Suitable habitat (Oakmont Creek, a perennial stream) for FYLF is present within the southern end of the project site. No focused surveys were conducted for this species, and it was not found during field surveys. Recorded occurrences of FYLF are within 5 miles of the project site. There is a potential for this species to occur on the project site because suitable breeding habitat for this species is present on-site.

California giant salamander

The California giant salamander is a California Species of Special Concern. This species moves from upland habitat to aquatic habitats for breeding purposes. This species requires cold permanent and semi-permanent streams. Therefore, Oakmont Creek contains suitable habitat for the California giant salamander within the project site. No focused surveys were conducted for this species, and it was not found during field surveys. Recorded occurrences of the California giant salamander are within 5 miles of the project site. There is a potential for this species to occur on the project site because suitable breeding and foraging habitat for this species is present on-site.

Red-bellied newt

The red-bellied newt is a California Species of Special Concern. This species migrates from terrestrial to aquatic habitats seasonally for breeding. Aquatic habitats include streams and rivers, not ponds or other standing water habitats for breeding purposes. Therefore, Oakmont Creek contains suitable habitat for the red-bellied newt within the project site. No focused surveys were conducted for this species, and it was not found during field surveys. Recorded occurrences of the red-bellied newt are within 5 miles of the project site. There is a potential for this species to occur on the project site because suitable breeding habitat for this species is present on-site.

Reptiles

Western pond turtle

The Western pond turtle is a California Species of Special Concern. This species is primarily aquatic and habitat includes ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. This species requires basking sites and suitable (grassy open fields) upland habitat for egg-laying. Therefore, the project site contains suitable habitat for this species with Oakmont Creek serving as a

potential migratory corridor for this species. No focused surveys were conducted for this species, and it was not found during field surveys. Recorded occurrences of the Western pond turtle are within 5 miles of the project site. There is a potential for this species to occur on the project site because there is suitable foraging and nesting habitat present on site.

Mammals

Pallid bat

The pallid bat is a California Species of Special Concern. This species roosts in mature trees and the presence of suitable foraging habitat on the project site provides potential for this species to occur on the project site. No focused surveys were conducted for the pallid bat, and it was not found during field surveys. Recorded occurrences of the pallid bat are within 5 miles of the project site. There is a potential for this species to occur on the project site because large trees provide suitable roosting habitat; the remnants of the former residences that were destroyed in the Glass Fire may also provide habitat.

Birds

White-tailed kite

The white-tailed kite is a fully protected species. This species nests in rolling foothills and valley margins with scattered oaks, riparian woodlands, or marshes next to deciduous woodland, and forages in open grasslands, meadows, or marshes. White-tailed kites forage for small rodents and insects in agricultural areas, especially alfalfa fields. Nests are typically built in available trees near hunting grounds. Large trees and riparian vegetation in the northern, southern, and western portions of the project site provide suitable nesting habitat; while fragmented, moderate-quality foraging habitat is present throughout the project site. There are no recorded occurrences of the white-tailed kite within 5 miles of the project site. There is a potential for this species to occur on the project site because the project site and its vicinity contains large trees suitable for nesting and open habitat for this species to forage.

Loggerhead shrike

The loggerhead shrike is a California Species of Special Concern. This species inhabits open areas with clear visibility for hunting, perches for scanning, and dense shrubs and brush for nesting. This species inhabits shrub lands or open woodlands with a fair amount of grass cover and areas of bare ground. The project site's fragmented non-native grassland and surrounding habitats have the potential to provide foraging habitat for the loggerhead shrike. In addition, trees and scattered shrubs present on the project site are suitable for nesting. Individuals may also occasionally disperse through the project site. There are no recorded occurrences of the loggerhead shrike within 5 miles of the project site. There is a potential for this species to occur on the project site because the project site and its vicinity contains suitable areas for foraging and suitable vegetation for this species to nest.

Wildlife Movement Corridors

Santa Rosa Area

Terrestrial habitat throughout the Bay Area ranges from high to low quality and varies in accessibility and continuity for wildlife movement. Aquatic habitat in the form of wetland and riparian habitats

along waters provides wildlife movement corridors for numerous fish and bird species. In addition, the Pacific Flyway encompasses the entire West Coast, and migrating bird species utilize the wetland and riparian habitats in the Bay Area for foraging and resting.

Project Site

The quality of wetland and riparian habitat at the project site is poor compared with other wetland and riparian habitat in the region, such as the Russian River, approximately 13 miles to the northwest. However, these properties likely still function as wildlife corridors for fish and bird species. In addition, open space areas and trees in these areas may provide foraging and resting habitat for migrating birds.

Regulated Trees

Project Site

Santa Rosa regulates certain trees through a permit process. Regulated trees are those trees that are designated by the Santa Rosa Municipal Code Chapter 17-24 Trees as heritage trees. The City lists the species that apply and what diameter and circumference they have to be in order to be considered a heritage tree. Additionally, the project site lies within 100 feet of a scenic road, which has the additional requirement that the applicant take special care to preserve the maximum number of trees possible, in accordance to Section 20-28.050 of the Santa Rosa Municipal Code. A qualified Arborist shall determine that any tree removal will not have negative impacts on the scenic quality of the roadway in question. According to the Elnoka CCRC Arborist's Report, approximately 1,663 trees were surveyed, of which approximately 409 are protected species and proposed to be removed and mitigated through the planting of a significant number of trees on-site in accordance with the City's Tree Preservation Ordinance.¹⁰ As discussed in Impact BIO-4 regulated trees subject to regulation in the project area are located on project site.

3.3.3 - Regulatory Framework

Federal

Federal Endangered Species Act

The USFWS has jurisdiction over species listed as threatened or endangered under the Federal Endangered Species Act (FESA). Section 9 of FESA protects listed species from "take," which is broadly defined as actions taken to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." FESA protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process. Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the USFWS, which administers the FESA for all terrestrial species. The first pathway is the Section 10(a) incidental take permit, which applies to situations where a non-federal government entity must resolve potential adverse impacts to species

¹⁰ Many trees were destroyed as a result of the Glass Fire. The full effect of the fire as it relates to trees has yet to be determined; some trees may regenerate after appearing to sustain extensive damage.

protected under FESA. The second pathway is Section 7 consultation, which applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code. All raptors and their nests are protected from take or disturbance under the MBTA (16 United States Code [USC] § 703, *et seq.*) and California statute (Fish and Game Code [FGC] § 3503.5). The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are also afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC § 669, *et seq.*) and the Bald and Golden Eagle Protection Act (16 USC § 668–668d).

Clean Water Act

Section 404

The United States Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States. The USACE has established a series of nationwide permits that authorize certain activities in waters of the United States, if a proposed activity can demonstrate compliance with standard conditions. Normally, the USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5-acre of waters of the United States. Projects that result in impacts to less than 0.5-acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. The USACE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.5-acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Section 401

As stated in Section 401 of the CWA, “any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.” Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

State

CEQA Guidelines

The following CEQA Guidelines serve as thresholds of significance for determining the potential impacts to the biological resources identified in this report:

- Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

- Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.
- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the CDFW, formerly California Department of Fish and Game, when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (FGC § 2080). CESA directs agencies to consult with the CDFW on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. CESA allows the CDFW to authorize exceptions to the State’s prohibition against take of a listed species if the “take” of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

California Fish and Game Code

Under CESA, the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Sections 2050 through 2098 of the Fish and Game Code outline the protection provided to California’s rare, endangered, and threatened species. Section 2080 of the Fish and Game Code prohibits the taking of plants and animals listed under the CESA. Section 2081 established an incidental take permit program for State-listed species. The CDFW maintains a list of “candidate species,” which it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, *et seq.*) prohibits the taking, possessing, or sale within the State of any plants with a state designation of rare, threatened, or endangered (as defined by CDFW). An exception to this prohibition in the NPPA allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants

before they are plowed under or otherwise destroyed. (FGC Section 1913 exempts from “take” prohibition “the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.”) Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

The CDFW also maintains lists of “Species of Special Concern” that serve as species “watch lists.” The CDFW has identified many Species of Special Concern. Species with this status have limited distribution or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA and thereby warrant specific protection measures.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the CNPS List Ranked 1A, 1B, and 2 would typically be considered under CEQA.

Sections 3500 to 5500 of the Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Section 3503.5 of the Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. “Take” of protected species incidental to otherwise lawful management activities may be authorized under Fish and Game Code Section 206.591. Authorization from the CDFW would be in the form of an Incidental Take Permit.

Section 1602 of the Fish and Game Code requires any entity to notify the CDFW before beginning any activity that “may substantially divert or obstruct the natural flow of, or substantially change or use any

material from the bed, channel, or bank of any river, stream, or lake” or “deposit debris, waste, or other materials that could pass into any river, stream, or lake.” “River, stream, or lake” includes waters that are episodic and perennial; and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if the CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water.

California Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code § 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. “Waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code § 13050(e)).

California Department of Fish and Wildlife Species of Concern

In addition to formal listing under FESA and CESA, certain species receive additional consideration by the CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of “Species of Special Concern,” developed by the CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened. In addition to Species of Special Concern, the CDFW identifies animals that are tracked by the CNDDDB, but warrant no federal interest and no legal protection. These species are identified as California Special Animals.

California Native Plant Society

The CNPS maintains a rank of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- **Rank 1A:** Plants presumed Extinct in California
- **Rank 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere
- **Rank 2:** Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- **Rank 3:** Plants about which we need more information—A Review List
- **Rank 4:** Plants of limited distribution—A Watch List

All plants appearing on CNPS List 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

Local

City of Santa Rosa General Plan 2035

The Santa Rosa General Plan 2035 serves as the overall guiding policy document for Santa Rosa. The following are the applicable General Plan 2035 goals and policies most pertinent to the project with regard to protection and preservation of the natural resources in the area.

- **Goal OSC-A:** Maximize the benefits of open space.
- **Policy OSC-A-2:** Collaborate with other agencies and private development to link non-access open spaces, where such linking would benefit the protection of special environments and life systems such as wetlands, plant communities, and wildlife habitats and corridors.
- **Goal OSC-B:** Conserve the city's open spaces and significant natural features.
- **Policy OSC-B-3:** Require that new subdivisions, multifamily, and non-residential development abutting creek corridors are appropriately designed and oriented with respect to the creek. Development may orient toward the creek as an amenity, but adequate setbacks shall be used to ensure riparian habitat is protected.
- **Goal OSC-D:** Conserve wetlands, vernal pools, wildlife ecosystems, rare plant habitats, and waterways.
- **Policy OSC-D-1:** Utilize existing regulations and procedures, including Subdivision Guidelines, Zoning, Design Review, and environmental law, to conserve wetlands and rare plants. Comply with the federal policy of no net loss of wetlands using mitigation measures such as:
 - Avoidance of sensitive habitat
 - Clustered development
 - Transfer of development rights, and/or
 - Compensatory mitigation, such as restoration or creation
- **Policy OSC-D-2:** Protect high quality wetlands and vernal pools from development or other activities as determined by the Vernal Pool Preservation Plan.
- **Policy OSC-D-3:** Preserve and restore elements of wildlife habitats and corridors throughout the Planning Area.
- **Policy OSC-D-4:** Continue to consult with the CDFW to identify significant environmental concerns, and develop an overall strategy for the maintenance of areas that will preserve the populations of plant and animals currently in the Urban Growth Boundary.
- **Policy OSC-D-5:** Consult with North Coast Regional Water Quality Control Board staff as part of the CEQA process for proposed developments to help them identify wetland and vernal pool habitat that has candidacy for restoration/protection based on actual and potential beneficial use, and determine appropriate locations for mitigation banking.
- **Policy OSC-D-6:** Preserve waterways by informing residents of the environmental effects of dumping yard waste into creeks, or other wastes, such as motor oil, into storm drains that empty into creeks.

- **Policy OSC-D-7:** Rehabilitate existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. Avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.
- **Policy OSC-D-8:** Restore channelized waterways to a more natural condition which allows for more natural hydraulic functioning, including development of meanders, pools, riffles, and other stream features. Restoration should also allow for growth of riparian vegetation which effectively stabilizes banks, screens pollutants from runoff entering the channel, enhances fisheries, and provides other opportunities for natural habitat restoration.
- **Policy OSC-D-9:** Ensure that construction adjacent to creek channels is sensitive to the natural environment. Ensure that natural topography and vegetation is preserved along the creek, and that construction activities do not disrupt or pollute the waterway.
- **Policy OSC-D-11:** New development along channelized waterways should allow for an ecological buffer zone between the waterway and development. This buffer zone should also provide opportunities for multi-use trails and recreation.
- **Policy OSC-D-12:** New development should maintain an adequate setback from channelized waterways to recognize the 100-year flood elevation, and allow for stream corridor restoration. Setbacks identified in the Zoning Code should serve as minimum setbacks. Larger setbacks are encouraged in accordance with Restoration Concept Plans to meet restoration and enhancement goals.
- **Goal OSD-E:** Ensure local creeks and riparian corridors are preserved, enhanced, and restored as habitat for fish, birds, mammals and other wildlife.
- **Policy OSC-E-1:** Preserve trees and other vegetation, including wildflowers, both as individual specimens and as parts of larger plant communities.
- **Policy OSC-E-2:** Preserve and regenerate native oak trees.

Santa Rosa Citywide Creek Master Plan

In August 2013, the City Council adopted the Santa Rosa Citywide Creek Master Plan.¹¹ The Master Plan helps to implement General Plan 2035 policies contained in Goals OSC-E through OSC-H by providing guidelines for the care, management, restoration, and enhancement of nearly 90 miles of creeks in Santa Rosa. The Santa Rosa Citywide Creek Master Plan is intended for use by City and county staff when planning creek enhancement and restoration activities, coordination and expansion of creek side trail systems, making broader land use planning decisions concerning creeks, and in the development approval process for projects proposed adjacent to a waterway. Conceptual restoration plans for Roseland Creek and Colgan Creek are included in the Santa Rosa Citywide Creek Master Plan. The following Master Plan policies would also minimize potential degradation of creek, riparian, and other sensitive communities:

- **Policy HA-1-1:** Avoid channelization of additional creeks to preserve remaining wildlife habitat.

¹¹ City of Santa Rosa. 2013. Santa Rosa Citywide Creek Master Plan.

- **Policy-HA-1-2:** Meet or exceed the required creek setback to provide ecological buffers, recognize the 100-year floodplain, and allow for stream corridor restoration. Development shall locate outside the creek setback, as identified with the Santa Rosa Zoning Code.
- **Policy HA-5-1:** Protect habitat for endangered species, through preservation, enhancement, and restoration of riparian corridors and preservation of stormwater pollution.
- **Policy HA-5-2:** Reestablish populations of special status species as ecologically appropriate.
- **Policy HA-6-1:** Coordinate, as appropriate, with regulatory agencies on Master Plan projects.
- **Policy HA-6-2:** Consistent with federal, state and local regulations, impacts to existing habitat will be avoided if possible. Minimization and mitigation of any unavoidable impacts will be required.
- **Policy HA-7-1:** Consult with knowledgeable experts as appropriate, including natural resources agency staff and other jurisdictions or organizations that have successfully completed similar project.

City of Santa Rosa City Code

Tree Ordinance: In 1990, the Santa Rosa City Council passed Ordinance 2858, which enacted the following regulations to protect certain trees that are essential to the City's natural heritage, called "heritage trees." City Code Sections 17-24.030 through 17-24.050 provide information about permits required for removal, relocation, or alteration of heritage or protected trees. For example, any heritage or protected trees that are approved to be removed must be replaced according to subdivision 1 under Chapter 17-24.050. In addition, tree protection measures are included for development projects.

Creekside Development: City Code Section 20-30.040 provides creek setback criteria for any new development. Section 20-30.040 details the distance new development must be from creeks and defined banks in order to protect from flooding and stream bank failures. For example, development must be a minimum of 50 feet from the top of the highest natural bank. Limited exceptions are permitted for any defined channel that is owned by the Sonoma County Water Agency, for developments in compliance with setback requirements prior to September 3, 2004, for new developments that are surrounded by existing structures that were developed in compliance with setback requirements prior to September 3, 2004, and for bridges and utilities.

3.3.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G, to determine whether impacts related to biological resources are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans,

policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (This question is not discussed in this section; instead refer to Chapter 4, Effects Found not to be Significant, for the respective analysis.)
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (This question is not discussed in this section; instead refer to Chapter 4, Effects Found not to be Significant, for the respective analysis.)

Approach to Analysis

Impacts on biological resources were evaluated based on the likelihood that special-status species, sensitive habitats, wildlife corridors, and protected trees are present on the project site, and the likely effects of project construction or operation on these resources. For the purposes of this Draft EIR, the word “substantial” as used in the significance thresholds above is defined by the following three principal components:

- Magnitude and duration of the impact (e.g., substantial/not substantial),
- Uniqueness of the affected resource (rarity), and
- Susceptibility of the affected resource to disturbance.

In this Biological Resources Analysis, the project site is defined as all areas that may be affected by project development.

Impact Evaluation

Special-status Species

Impact BIO-1: **The proposed project may have a substantial adverse impact on special-status plant and wildlife species.**

An impact to special-status plant and wildlife species would be considered significant if project construction or operations resulted in a substantial, adverse change in any of the physical conditions

(such as habitat) within the area affected by the project. Each potential special-status species that has the potential to be impacted is discussed in detail below.

Special-status Plant Species

As discussed above, special-status plant species or communities are unlikely to occur within the project site, based on multiple database searches, literature review, and on-site field observations. Table 1 of the BRA (Appendix D) provides both the habitat description and the rationale of the potential of special-status plant species to occur on the project site. As explained more fully in Table 1 of the BRA, suitable habitats requirements for special-status plant species include vernal pools, swales, freshwater marshes, rock outcroppings, serpentine soils, and volcanic substrates. These features are absent from the project site. Furthermore, over half the project site contains non-native grassland and urban/developed land. As such, no impacts to special-status plants or plant communities are expected to result from project construction or operation.

Special-status Wildlife Species

As discussed in Section 3.3.2, eight special-status wildlife species have potential to occur on the project site. Table 2 of the BRA (Appendix D) provides both the habitat description and the rationale of the potential of special-status wildlife species to occur on the project site. Potential impacts to special-status wildlife species are detailed below:

California red-legged frog

The project site is located within the known range of the CRLF but outside of its critical habitat as designated by the USFWS. The CRLF is a federally listed threatened species and therefore protected pursuant to the FESA. As noted in Section 3.3.3, FESA prohibits the “take” of endangered or threatened wildlife species. The CRLF is also a California Species of Special Concern.

The CRLF is typically found in ponds, and slow-flowing portions of streams that contain perennial water. Populations may not be maintained if surface water is not present, as the species needs surface water to lay egg and develop larva. Riparian and aquatic vegetation are preferred red-legged frog habitat, but not vital for the species to be present. The CRLF also utilizes upland areas for migration. Suitable upland habitat requirements include densely vegetated areas, rocks, and burrows that provide refuge from predators. An occurrence was recorded within 5 miles of the project site in 2016, in Trione-Annadel State Park. No focused surveys were conducted for this species, and it was not found during field surveys. FCS Biologists concluded that this species has potential to occur on the project site.

Suitable aquatic habitat is present within the project site in the form of Oakmont Creek, as the creek shows evidence of habitat requirements for the CRLF. Suitable habitat requirements are not found on Melita Creek because of a lack of perennial water. As noted above, the project would result in a bridge crossing over Oakmont Creek and may disturb CRLF habitat, resulting in a potentially significant impact. Implementation of Mitigation Measure (MM) BIO-1a would reduce potential impacts to CRLF to a less than significant level by avoiding construction during the wet season to the extent feasible, by requiring surveys for this species prior to beginning work, requiring worker training, and requiring revegetation following completion of construction activities. Consultation with the USFWS would also occur in accordance with applicable requirements.

Foothill yellow-legged frog

The foothill yellow-legged frog is a California Species of Special Concern and is currently under review as a candidate species under CESA. This species is typically found in streams and rivers with a rocky substrate. Reproduction is aquatic and occurs exclusively in streams and rivers. Adult migration is usually limited to modest movements along the corridors of rivers and streams. The foothill yellow-legged frog has had few detailed studies on its life history and, as a result, is one of the most poorly understood frog species in California. No focused surveys were conducted for this species, and it was not found during field surveys. FCS Biologists concluded that this species has potential to occur on the project site.

Oakmont Creek provides suitable aquatic habitat within the project site, as the creek shows evidence of habitat requirements for the foothill yellow-legged frog. Melita Creek is an ephemeral drainage and does not contain suitable reproductive habitat for the foothill yellow-legged frog. Furthermore, the proposed bridge crossing over Oakmont Creek has the potential to disturb foothill yellow-legged frog habitat, which would constitute a potentially significant impact. Implementation of MM BIO-1b would reduce potential impacts to foothill yellow-legged frog to a less than significant level by avoiding construction during the wet season to the extent feasible, requiring surveys for this species prior to beginning work, requiring worker training, and requiring revegetation following completion of construction activities. Consultation with the CDFW would also occur in accordance with applicable requirements.

California giant salamander

The California giant salamander is a California Species of Special Concern and has no federal status. This species is found in a variety of habitats including lakes, ponds, rivers, and streams. They prefer swift moving water and require cover in the form of rocks and downed logs for protection from predators and reproduction. Mature adults migrate to suitable streams and rivers to breed where females lay their eggs in a hidden subterranean or underwater nesting site. An occurrence was recorded within 1 mile of the project site in 2002 on the Santa Rosa Creek. No focused surveys were conducted for this species, and it was not found during field surveys. FCS Biologists concluded that this species has potential to occur on the project site.

The project site contains suitable habitat for this species in the form of Oakmont Creek, as the creek shows evidence of perennial water necessary for California giant salamander reproduction. Melita Creek is an ephemeral drainage that does not contain perennial water and does not meet the necessary habitat requirements of the California giant salamander. The proposed bridge crossing over Oakmont Creek has the potential to disturb California giant salamander habitat, and would constitute a potentially significant impact. Implementation of MM BIO-1c would reduce potential impacts to the California giant salamander to a less than significant level by avoiding construction during the wet season to the extent feasible, by requiring surveys for this species prior to beginning work, requiring worker training, and requiring revegetation following completion of construction activities. Consultation with the CDFW would also occur in accordance with applicable requirements.

Red-bellied newt

The red-bellied newt is a California Species of Special Concern and has no federal status. This species migrates from terrestrial to aquatic habitats seasonally for breeding purposes. Typical

aquatic habitats include streams and rivers with a rocky substrate, but not ponds or other standing water habitats. Breeding takes place during the wet season from late February to May. Eggs are usually attached to submerged roots or the underside of a rock along the side of streams. An occurrence was recorded within 2 miles of the project site in 1990 on the Santa Rosa Creek. No focused surveys were conducted for this species, and it was not found during field surveys. FCS Biologists concluded that this species has potential to occur on the project site.

Oakmont Creek provides suitable aquatic breeding habitat within the project site because of perennial water and reproductive habitat in the form of a rocky substrate. Melita Creek lacks suitable breeding habitat due to a lack of perennial water and stream features (such as tree roots). Furthermore, the proposed bridge crossing over Oakmont Creek has the potential to disturb foothill red-bellied newt habitat and would constitute a potentially significant impact. Implementation of MM BIO-1d would reduce potential impacts to the red-bellied newt to a less than significant level by avoiding construction during the wet season to the extent feasible, requiring surveys for this species prior to beginning work, requiring worker training, and requiring revegetation following completion of construction activities. Consultation would also occur with the CDFW in accordance with applicable requirements.

Western pond turtle

The western pond turtle is a California Species of Special Concern and has no federal status. This species is primarily aquatic, and habitat includes ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. This species only leaves aquatic habitat to reproduce and to overwinter. This species requires basking sites and suitable (grassy open fields) upland habitat for egg-laying. Eggs are buried in nests that are usually found within 250 meters of water. An occurrence was recorded within 1 mile of the project site in 1998 on the Santa Rosa Creek. No focused surveys were conducted for this species, and it was not found during field surveys.

Oakmont Creek provides suitable aquatic habitat for this species, as the creek displays habitat characteristics needed for the reproduction and survival of the western pond turtle. Melita Creek does not have the habitat characteristics needed to support the western pond turtle because of the lack of perennial water and aquatic vegetation. The proposed bridge crossing over Oakmont Creek has the potential to disturb western pond turtle habitat and would constitute a potentially significant impact. Implementation of MM BIO-1e would reduce potential impacts to western pond turtle to a less than significant level by avoiding construction during the overwintering season to the extent feasible, requiring surveys for this species prior to beginning work, requiring worker training, and requiring revegetation following completion of construction activities. Consultation would also occur with the CDFW in accordance with applicable requirements. FCS Biologists concluded that this species has potential to occur on the project site.

Pallid bat

The pallid bat is a California Species of Special Concern and has no federal status. This species is common in low elevations throughout California. This species occupies a wide variety of habitat, but is most commonly found in open, dry habitats with rocky areas and mature trees for foraging and roosting. Additional roosting habitats include caves, crevices, and abandoned buildings. An occurrence was recorded within 1 mile of the project site in 1997. No focused surveys were

conducted for this species, and it was not found during field surveys. FCS Biologists concluded that this species has potential to occur on the project site.

The project site shows evidence of open, dry habitat (non-native grassland), mature trees (oak and riparian woodland), and the remnants of three residential structures destroyed in the Glass Fire. The removal of trees as well as the debris from the Glass Fire may result in a reduction of potential bat roosting habitat. Construction-related activities may cause disturbance to bats roosting in trees scheduled to be removed. The loss of a nursery site or maternity colony for any bat species, regardless of the species' status, would constitute a potentially significant impact. Implementation of MM BIO-1f would ensure there would be no long-term effects on bats by requiring surveys prior to commencement of construction activities and, if bats are present, requiring any necessary buffer zones to be established by a qualified Biologist. Moreover, the project would not contribute to the permanent loss of roosting habitat, habitat fragmentation, or a loss of suitable foraging habitat. Therefore, impacts to bats would be less than significant with mitigation.

White-tailed kite

The white-tailed kite is a fully protected species under the Fish and Game Code. Under Fish and Game Code Section 3503.5, it is unlawful to take, possess, or destroy any protected birds or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the Fish and Game code or any regulation adopted pursuant thereto. This species nests in rolling foothills and valley margins with scattered oaks, riparian woodlands, or marshes next to deciduous woodlands, and forages in open grasslands, meadows, or marshes. White-tailed kites forage for small rodents and insects in agricultural areas, especially alfalfa fields. Nests are typically built in available trees near hunting grounds. No focused surveys were conducted for this species, and it was not found during field surveys. FCS Biologists concluded that this species potential to occur on the project site.

Large trees and riparian vegetation in the northern, southern, and eastern portions of the project site may provide suitable nesting habitat for white-tailed kite, and fragmented, moderate-quality foraging habitat for this species is present throughout the site. The removal of trees may result in a reduction of potential nesting habitat, which is a potentially significant impact. Implementation of MM BIO-1g would reduce impacts to white-tailed kites to a less than significant level by requiring pre-construction surveys prior to any work taking place during the nesting season, and if necessary, buffer zones established by a qualified Biologist. Consultation with the CDFW or USFWS would not be necessary, but any notification requirements under applicable laws and regulations would occur if any active nests were identified.

Loggerhead shrike

The loggerhead shrike is a California Species of Special Concern. This species is also protected under both the MBTA and Fish and Game Code that protects birds, active nests, eggs, and young. This species inhabits open areas with clear visibility for hunting, perches for scanning, and dense shrubs and brush for nesting. This species inhabits shrub lands or open woodlands with a fair amount of grass cover and areas of bare ground. No focused surveys were conducted for this species, and it was not found during field surveys. FCS Biologists concluded that this species has potential to occur on the project site.

The project site's fragmented non-native grassland and surrounding habitats have the potential to provide foraging habitat for loggerhead shrike. In addition, trees and scattered shrubs present on the project site are suitable for nesting. Individuals may also occasionally disperse through the project site. The removal of trees by the project could result in a reduction of potential nesting habitat, which is a potentially significant impact. Implementation of MM BIO-1g would reduce potential impacts to loggerhead shrike to a less than significant level by requiring pre-construction surveys prior to any work taking place during the nesting season, and if necessary, buffer zones established by a qualified Biologist. Consultation with the CDFW or USFWS would not be necessary, but any notification requirements under applicable laws and regulations would occur if any active nests were identified.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM BIO-1a California Red-legged Frog Protection

- A. To the extent practicable, the applicant shall avoid construction during the wet season when California red-legged frog (CRLF) are most active. Except for limited vegetation clearing (necessary to minimize effects to nesting birds), work shall be limited to the dry season (from June 1 to October 31).
- B. The applicant shall retain a United States Fish and Wildlife Service (USFWS)-approved Biologist to survey the project site no more than 7 days before the onset of any ground-disturbing activities. If any life stage of the CRLF is detected, construction activities shall not be allowed to commence until consultation with the USFWS has occurred in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the USFWS as may be applicable to the project under the Federal Endangered Species Act (FESA).
- C. Before any ground-disturbing activities begin on the project, the applicant shall retain a USFWS-approved Biologist to conduct a worker's environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the CRLF and its habitat, and the specific measures that are being implemented to conserve the CRLF for the project. Brochures, books, and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions.
- D. The applicant shall revegetate utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the USFWS and the project applicant determine that it is not feasible or practical.
- E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using approved fencing in

order to minimize project-related disturbance to potential CRLF habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.

MM BIO-1b Foothill Yellow-legged Frog Protection

- A. To the extent practicable, the applicant shall avoid construction during the wet season when foothill yellow-legged frogs are most active. Except for limited vegetation clearing (necessary to minimize effects to nesting birds) work shall be limited to the dry season (from June 1 to October 31).
- B. No more than 7 days prior to the first ground-disturbing activities, the applicant shall retain a qualified wildlife Biologist to conduct a focused survey for foothill yellow-legged frog to determine presence or absence of this species within a 100-foot radius of the disturbance area. If the species is observed within the disturbance area and/or the 100-foot radius during the focused survey, the California Department of Fish and Wildlife (CDFW) shall be contacted and all construction activities within the disturbance area must be delayed until an appropriate course of action is established and approved by the CDFW in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the CDFW as may be applicable to the project under the California Endangered Species Act (CESA).
- C. Before any ground-disturbing activities begin on the project, the applicant shall retain an approved Biologist to conduct a worker's environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the foothill yellow-legged frog and its habitat, and the specific measures that are being implemented to conserve the foothill yellow-legged frog for the project. Brochures, books, and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions.
- D. The applicant shall revegetate any impacted riparian areas utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the CDFW and project applicant determine that it is not feasible or practicable.
- E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using approved fencing in order to minimize project-related disturbance to potential foothill yellow-legged frog habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.

MM BIO-1c California Giant Salamander Protection

- A. To the extent practicable, the applicant shall avoid construction during the wet season when the California giant salamander are most active. Except for limited vegetation clearing (necessary to minimize effects to nesting birds) work shall be limited to the dry season (from June 1 to October 31).
- B. No more than 7 days prior to the first ground-disturbing activities, the applicant shall retain a qualified wildlife Biologist to conduct a focused survey for the California giant salamander to determine presence or absence of this species within a 100-foot radius of the disturbance area. If the species is observed the disturbance area and/or the 100-foot radius during the focused survey, the California Department of Fish and Wildlife (CDFW) shall be contacted and all construction activities within the disturbance area must be delayed until an appropriate course of action is established and approved by the CDFW in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the CDFW as may be applicable to the project under the California Endangered Species Act (CESA).
- C. Before any ground-disturbing activities begin on the project, the applicant shall retain an approved Biologist to conduct a worker's environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the California giant salamander and its habitat, and the specific measures that are being implemented to conserve the California giant salamander for the project. Brochures, books, and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions.
- D. The applicant shall revegetate any impacted riparian areas utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the CDFW and project applicant determine that it is not feasible or practical.
- E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using approved fencing in order to minimize project-related disturbance to potential California giant salamander habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.

MM BIO-1d Red-bellied Newt Protection

- A. To the extent practicable, the applicant shall avoid construction during the wet season when the red-bellied newt most active. Except for limited vegetation

clearing (necessary to minimize effects to nesting birds) work shall be limited to the dry season (from June 1 to October 31).

- B. No more than 7 days prior to the first ground-disturbing activities, the applicant shall retain a qualified wildlife Biologist to conduct a focused survey for the red-bellied newt to determine presence or absence of this species within a 100-foot radius of the disturbance area. If the species is observed within the disturbance area and/or the 100-foot radius during the focused survey, the California Department of Fish and Wildlife (CDFW) shall be contacted and any construction activities within the disturbance area must be delayed until an appropriate course of action can be established and approved by the CDFW in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the CDFW as may be applicable to the project under the California Endangered Species Act (CESA).
- C. Before any ground-disturbing activities begin on the project, the applicant shall retain an approved Biologist to conduct a worker's environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the red-bellied newt and its habitat, and the specific measures that are being implemented to conserve the red-bellied newt for the project. Brochures, books, and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions.
- D. The applicant shall revegetate any impacted riparian areas utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the CDFW and project applicant determine that it is not feasible or practical.
- E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using approved fencing in order to minimize project-related disturbance to potential red-bellied newt habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.

MM BIO-1e Western Pond Turtle Protection

- A. The applicant shall avoid construction when adults and hatchlings are overwintering (October 1 to February 28/29), because of the likelihood that turtle adults and juveniles could be present in upland habitats. If ground-disturbing construction activities will occur during the period of October 1 to February 28/29, a survey by a qualified Biologist of overwintering locations in any upland habitats that would be disturbed as a result of the project shall be conducted no more than 7 days prior to ground disturbance of any upland habitats. If this species is found

overwintering within the disturbance area, den locations shall be avoided until the area is unoccupied, as determined by the qualified Biologist.

- B. No more than 7 days prior to the first ground-disturbing activities, the applicant shall retain a qualified Wildlife Biologist to conduct a focused survey for western pond turtle to determine presence or absence of this species within a 100-foot radius of the disturbance area. If construction occurs between April 1 and September 30, this survey shall include turtle nests. If a nest is found within a 100-foot radius of the project site, construction shall not take place within 100 feet of the nest until the turtles have hatched or the eggs have been moved to an appropriate location under consultation with a qualified Biologist in accordance with applicable laws and regulations, and the applicant has satisfied any and all other requirements imposed by the California Department of Fish and Wildlife (CDFW) as may be applicable to the project under the California Endangered Species Act (CESA).
- C. Before any ground-disturbing activities begin on the project, the applicant shall retain an approved Biologist to conduct a worker's environmental awareness program (WEAP) for all construction personnel. At a minimum, the training shall include a description of the western pond turtle and its habitat, and the specific measures that are being implemented to conserve western pond turtle for the project. Brochures, books, and briefings may be used in the WEAP, provided that a qualified person is on hand to answer any questions.
- D. The applicant shall revegetate any impacted riparian areas utilizing an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable during construction. This measure shall be implemented in all areas disturbed by activities associated with the project, unless the CDFW and project applicant determine that it is not feasible or practical.
- E. Prior to initiating ground disturbance activities, the vehicle and equipment access routes and work/staging areas shall be delineated using approved fencing in order to minimize project-related disturbance to potential western pond turtle habitat to the maximum extent feasible. During grading activities, all project-related vehicle traffic shall be restricted to established roads or access routes, and shall observe a 20 mph speed limit within the work areas, except on County roads and highways.

MM BIO-1f Pallid Bat Protection

- A. In order to avoid potential impacts to roosting special-status bats, the applicant shall retain a certified Biologist to survey trees and the remnants of buildings to be disturbed by project operations. The surveys shall be conducted 15 days prior to commencing with any demolition or removal. If no special-status bats are found during the surveys, then no further action is needed. No less than 7 days and no

more than 15 days prior to the start of ground disturbing activities, a qualified Biologist will survey trees in the project site for evidence of bat roosts.

- B. If special-status bats species are found during the above-referenced survey(s), the applicant shall retain a qualified Biologist to make a determination regarding whether there are young bats present. If young are found roosting in any tree, removal of the tree shall be avoided until the young have reached independence. A non-disturbance buffer along with fencing shall also be established around the maternity site. The size of the buffer zone shall be determined by a qualified Bat Biologist at the time of the surveys. If adults are found roosting in a tree on the project site but no maternal sites are found, then the adult bats can be flushed or a one-way eviction door may be placed over the tree cavity prior to the time the tree would be removed or disturbed.

MM BIO-1g Migratory and Nesting Birds Protection

- A. Implementation of the following avoidance and minimization measures would avoid or minimize potential effects to migratory birds and habitat in and adjacent to the project site. These measures shall be implemented by the applicant for construction work performed during the nesting season (February 1 through August 31):
- If construction or tree removal is proposed during the breeding/nesting season for migratory birds (typically February 1 through August 31), the applicant shall retain a qualified Biologist to conduct pre-construction surveys for raptors and other migratory birds within the construction area, including a 300-foot survey buffer, no more than 3 days prior to the start of ground disturbing activities in the construction area.
 - If an active nest is located during pre-construction surveys, the applicant shall notify the United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Wildlife (CDFW) (as appropriate) regarding the status of the nest. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or a qualified Biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 300 feet around an active raptor nest and 50-foot radius around an active migratory bird nest) or alteration of the construction schedule.
 - The applicant shall retain a qualified Biologist to delineate the buffer using nest buffer signs, Environmentally Sensitive Area (ESA) fencing, pin flags, and or flagging tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently.

Level of Significance After Mitigation

Less than significant impact.

Sensitive Natural Communities or Riparian Habitat

Impact BIO-2: **The proposed project may have adverse impacts on sensitive natural communities or riparian habitat.**

An impact to sensitive natural communities or riparian habitat would be considered significant if project construction or operation resulted in a substantial, adverse change in any of the physical conditions (such as removal of vegetation) within the area affected by the project. Potential impacts to sensitive natural communities or riparian habitat that have the potential to be impacted are discussed in detail below.

As discussed in Section 3.3.2, likely jurisdictional waters of the United States occur on Oakmont, Annadel, and Melita Creeks within the project site.

Based on currently available design information, construction of the three proposed bridges would result in localized loss of vegetation, general disturbance to the soil, and an increase in impervious surfaces. Furthermore, removal of vegetation and soil could accelerate erosion processes within the project site and increase the potential for sediment to enter the creeks, which have the potential to contain special-status species. Exhibit 3.3-3 depicts potential impacts to jurisdictional features and riparian communities on-site. These impacts would be potentially significant.

If development results in impacts to the on-site aquatic resources below the ordinary high water mark (OHWM) such that Section 401 and 404 permits and/or a Lake and Streambed Alteration Agreement may be required, then the applicant shall adhere to all requirements under applicable laws and regulations, as required by MM BIO-2a and MM BIO-2b.

If development does not result in impacts to the on-site aquatic resources below the OHWM (for example, impacts to riparian vegetation/outside the wetted portion of waterway), then the applicant may still need to obtain a Lake and Streambed Alteration Agreement permit from the CDFW; to ensure the applicant adheres to all applicable requirements in this regard, MM BIO-2b would be imposed. Implementation of MM BIO-2a and MM BIO-2b and compliance with all requirements of any necessary agency permits would reduce impacts from erosion, sedimentation, runoff, and accidental spills, as well as impacts to riparian habitat to a less than significant level.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM BIO-2a If potential jurisdictional waters cannot be avoided:

- The applicant shall adhere to any and all permitting requirements under applicable laws and regulations with respect to a Section 404 Clean Water Act (CWA) permit for impacts to waters of the United States as well as a Section 401 permit from the Regional Water Quality Control Board (RWQCB). If and to the extent these permits are required under applicable laws and regulations, then the applicant shall obtain said permits prior to issuance of grading permits and implementation of the project.

- The applicant shall ensure that the project will result in no net loss of waters of the United States by providing mitigation through impact avoidance, impact minimization, and/or compensatory mitigation for the impact, as determined in the CWA Section 404/401 permits and in accordance with applicable laws and regulations.
- Evidence of compliance with this mitigation measure shall be provided to the City prior to issuance of grading permits for the project.

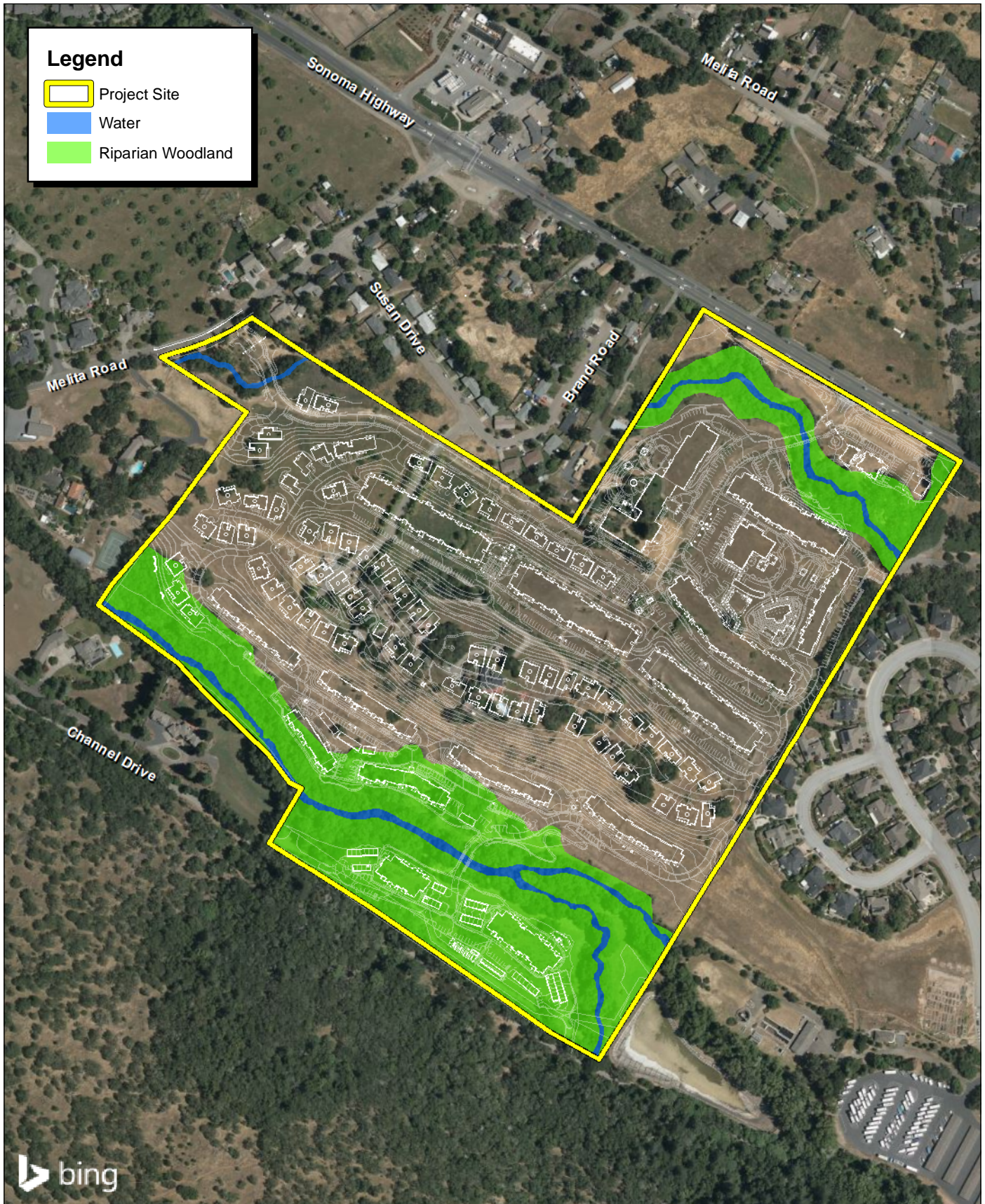
MM BIO-2b If potential jurisdictional waters can be avoided:

- A. The applicant shall adhere to any and all permitting requirements under applicable laws and regulations with respect to a Section 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) for impacts to riparian habitat and follow the conditions and requirements of the permit to compensate for the removal of riparian habitat.

Level of Significance After Mitigation

Less than significant impact.

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Exhibit 3.3-3 Impacts to Wetlands and Riparian Communities

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Wetlands

Impact BIO-3: **The proposed project would not have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.**

It is likely jurisdictional waters of the United States occur on the project site. Three creeks are found on the project site. Impacts to State or federally protected wetlands would be considered significant if the proposed operations resulted in a substantial, adverse change in any of the physical conditions (i.e. fill) of wetlands.

Construction of the project will result in localized loss of vegetation, general disturbance to the soil, and an increase in impervious surfaces. Removal of vegetation and soil can accelerate erosion processes within the project site and increase the potential for sediment to enter into the creeks, which has the potential to contain special-status species.

Construction activities typically include the refueling of construction equipment on location. As a result, minor fuel and oil spills may occur with a risk of larger releases. Without rapid containment and cleanup, these materials could be potentially toxic depending on the location of the spill in proximity to water features. Accidental spills within the project work site and into the creeks could result in adverse impacts to the aquatic environment.

The project will involve the construction of three separate span bridges across all three creeks present on the project site. These span bridges are not expected to impact any federally jurisdictional water. The design of these bridges will not disturb these features. An LSAA permit will be required as these bridges will have impacts to riparian vegetation outside the wetted portion of waterway (above the OHM). The LSAA permit will be submitted to the CDFW.

Implementation of MM BIO-2a and BIO-2b would reduce impacts from erosion, sedimentation, runoff, and accidental spills; as well as impacts to riparian habitat to a less than significant level.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM BIO-2a through MM BIO-2b.

Level of Significance After Mitigation

Less than significant impact.

Fish and Wildlife Movement Corridors

Impact BIO-4: **The proposed project would have substantial adverse impacts on fish or wildlife movement.**

An impact to fish or wildlife movement would be considered significant if project construction or operation resulted in a substantial, adverse change in any of the physical conditions (such as the interruption of a channel or terrestrial movement corridor) within the area affected by the project. Fish or wildlife movement that have the potential to be impacted are discussed in detail below.

The project site was evaluated for evidence of a wildlife movement corridor during the reconnaissance-level survey. The subsequent conclusions are based on the information compiled during the literature review, including aerial photographs, USGS topographic maps and resource maps for the vicinity, the field survey conducted, and professional knowledge of desired topography and resource requirements for wildlife potentially utilizing the project site and vicinity. The following General Plan 2035 policies and City Code provisions protect biological resources as they relate to wildlife movement corridors:

- **Policy OSC-A-2:** Collaborate with other agencies and private development to link non-access open spaces, where such linking would benefit the protection of special environments and life systems such as wetlands, plant communities, and wildlife habitats and corridors.
- **Policy OSC-B-3:** Require that new subdivisions, multifamily, and non-residential development abutting creek corridors are appropriately designed and oriented with respect to the creek. Development may orient toward the creek as an amenity, but adequate setbacks shall be used to ensure riparian habitat is protected.
- **Policy OSC-D-7:** Rehabilitate existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. Avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.
- **Policy OSC-D-9:** Ensure that construction adjacent to creek channels is sensitive to the natural environment. Ensure that natural topography and vegetation is preserved along the creek, and that construction activities do not disrupt or pollute the waterway.
- **Policy HA-1-1:** Avoid channelization of additional creeks to preserve remaining wildlife habitat.
- **Policy HA-1-2:** Meet or exceed the required creek setback to provide ecological buffers, recognize the 100-year floodplain, and allow for stream corridor restoration. Development shall locate outside the creek setback, as identified with the Santa Rosa Zoning Code.
- **Policy HA-5-1:** Protect habitat for endangered species, through preservation, enhancement, and restoration of riparian corridors and preservation of stormwater pollution.
- **Policy HA-5-2:** Reestablish populations of special status species as ecologically appropriate.
- **20-30.040 Creekside development:**
 - A. Creekside setback requirements:
 1. Waterway with defined bank. The exterior boundary of the setback area on each side of a natural or modified natural waterway shall be 50 feet from the top of the highest bank on that side of the waterway, as determined by the Director. When the bank of

- a natural or modified natural waterway is steeper than 2.5:1, the exterior setback boundary shall be measured by the projections of a slope of 2.5:1 from the toe of the stream bank to ground level, plus 50 feet.
2. Waterway without defined bank. The exterior boundary of the setback area adjacent to the side of a natural or modified natural waterway, where the top of the stream bank is not defined, shall be 50 feet, measured horizontally, from the established 100-year storm freeboard level. See Figure 3-2.

The project site contains disturbed land and the remains of three residential structures destroyed by the Glass Fire; the surrounding area consists of residential, light commercial, and agricultural uses. As noted in the discussion under Impact BIO-1, special-status wildlife species and bird species protected under FESA, the Fish and Game Code and the MBTA have the potential to occur within project site and the project site may support the movement of these species within the larger Laguna de Santa Rosa Watershed. Project operations have the potential to impact wildlife movement through the construction of three bridge crossings over Oakmont, Annadel, and Melita Creeks. Given the perennial water in Oakmont Creek, species may use this creek for migration and defense from predation.

These species include the CRLF, foothill yellow-legged frog, California giant salamander, red-bellied newt, western pond turtle, pallid bat, white-tailed kite, and loggerhead shrike. Compliance with MM BIO-1a through MM BIO-1g; applicable federal and State laws and regulations related to the protection of migratory fish and wildlife species, including, without limitation, the proposed General Plan 2035 policies that protect biological resources (Policies OSC-A-2, OSC-B-3, OSC-D-7, OSC-D-9, HA-1-1, HA-1-2, HA-5-1, HA-5-2); and Creekside Development City Code Section 20-30.040 would reduce impacts to these species to less than significant through the avoidance of impacts to sensitive species during construction, as well as the preservation or enhancement of sensitive habitats in accordance with state and/or federal regulatory permitting requirements. Furthermore, the project's preservation of on-site creek corridors by the avoidance of these riparian areas, coupled with the above-mentioned mitigation and required adherence to applicable laws and regulations would ensure that impacts to on-site fish and wildlife movement would be reduced to a less than significant level.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM BIO-1a through MM BIO-1g.

Level of Significance After Mitigation

Less than significant impact.

Local Policies or Ordinances

Impact BIO-5: The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The Santa Rosa General Plan 2035 and City Code Sections 17-24.030 through 17-24.050 establish protections for trees. In addition, the General Plan 2035 and City Code Section 20-30.040 establish setbacks for the protection of creeks. A significant impact would result if construction or operation of the project would conflict with these policies and provisions.

An ISA-certified Arborist and Member of the American Society of Consulting Arborists prepared a Tree Inventory Report for the project on May 17, 2017 (see Appendix D). The report provides an inventory and preliminary evaluation of all trees over 4 inches in diameter (at 54 inches above grade, unless noted otherwise) on the project site. In total, approximately 1,663 trees were surveyed by the Arborist and her team on the project site.¹² Trees within creek setbacks, which would not be disturbed as a result of the project, were not included in the survey. Trees that were surveyed were numbered, tagged, identified, measured, and evaluated, based on potential impacts. Of those, 30 trees to be removed are not protected species including Hollywood juniper, Monterey cypress, Monterey pine, and one flowering hawthorn. Of more than 1,663 trees, approximately 409 trees of protected (including heritage) species are proposed to be removed and mitigated in accordance with applicable provisions of the City Code. These protected tree species to be removed include but are not limited to valley oak, coast live oak, blue oak (*Quercus douglasii*), deodar cedar (*Cedrus deodara*), Italian stone pine (*Pinus pinea*), magnolia (*Magnolia grandiflora*), California bay laurel (*Umbellularia californica*), black locust (*Robinia pseudoacacia*), willow (*Salix* sp.), and Coast redwood (*Sequoia sempervirens*). The applicant is required to conform to City Policies OSC-E-1, OSC-E-2, and City Code Sections 17-24.030 and 17-24.050, which mandate the procurement of a permit and the replacement for the removal of protected trees within the City.

Section 20-30.040 of the Santa Rosa City Code details that proposed buildings as part of a project must be set back a minimum of 50 feet from the top of the highest bank from all on-site waterways. This project contains four on-site creeks and would be required to comply with these setback minimums. The project would not propose structures or construction within these 50-foot setbacks and would also maintain all riparian areas around these setbacks to retain natural/open space. Note that bridges for motor vehicles, pedestrians, and/or bicycles, and/or public utility infrastructure may cross through a waterway setback area and over or under its channel, provided that the installation has received all required approvals from the City and any other public agencies with jurisdiction over aspects of the proposed creekside development would be obtained. Therefore, the project would be consistent with these requirements.

Implementation of the project would not result in a conflict with a local policy or ordinance designed to protect biological resources. The City of Santa Rosa has adopted the General Plan 2035 and the

¹² Many trees were destroyed as a result of the Glass Fire. The full effect of the fire as it relates to trees has yet to be determined; some trees may regenerate after appearing to sustain extensive damage.

Santa Rosa City Code. The following are General Plan 2035 policies and Santa Rosa City Code policies that relate to tree and creek protection:

- **Policy OSC-D-12:** New development should maintain an adequate setback from channelized waterways to recognize the 100-year flood elevation, and allow for stream corridor restoration. Setbacks identified in the Zoning Code should serve as minimum setbacks. Larger setbacks are encouraged in accordance with Restoration Concept Plans to meet restoration and enhancement goals.
- **Policy OSC-E-1:** Preserve trees and other vegetation, including wildflowers, both as individual specimens and as parts of larger plant communities.
- **Policy OSC-E-2:** Preserve and regenerate native oak trees.
- **City Code Section 17-24.030 Tree alteration, removal, relocation—Permit required:** No person shall alter, remove or relocate, or permit or cause the alteration, removal or relocation, of any tree, including any heritage, protected, or street tree, situated in the City, without a permit as provided in this chapter.
 - (A) The provisions of this section shall not apply to the following:
 - (1) The alteration, removal or relocation of a tree, except a protected or heritage tree, situated on “developed property in a R-1, R-1-6, R-1-7.5, R-1-9, PRD, and R-1-PD zoning district,” unless the adopted policy statement for a particular PRD or R-1-PD zoning district states that a permit is required.
 - (2) The trimming or clearing of any tree’s branches or roots from interfering (a) with the lines of any public utility, City water, sewer and storm drain lines and open storm drain channels and City streets, sidewalks, curbs and gutters when necessary for the proper maintenance of such facilities, or (b) with the maintenance of adequate lines of sight along City streets and entrances to such streets, including lines of sight to traffic control signs and signals, provided that accepted arboricultural practices are utilized in each instance.
 - (3) A removal or alteration of any tree necessitated by a hazardous or dangerous condition of, or caused by the tree, or a portion thereof, which requires immediate action to protect life or property. Such a tree, including a street, protected, or heritage tree, may be altered or removed by City personnel without a permit, or by the property owner with the prior written permission given by the head of any one of the following City departments: the Police Department, Fire Department, Public Works Department, Utilities Department, Recreation and Parks, Community Development, or City Manager. Decision making authority in such situations may be delegated to field personnel by the head of each such Department or by the City Manager.
 - (4) Trees, other than heritage trees, situated within City owned parks and other City owned or controlled places when altered, removed, or relocated by City employees or by contractors retained by the City.
 - (5) Exempt Trees. The following species of tree and any additional species, as determined by resolution of the City Council from time to time, are exempt from the provisions of this chapter (except for those that may exist as street trees) and a permit is not required for their alteration, removal or relocation: acacia, silver maple,

poplar, ailanthus, hawthorn, fruitless mulberry, ligustrum, pyracantha, Monterey pine, Monterey cypress, and fruit and nut trees, except walnut trees which are not exempt.

- **City Code Section 17-24.050 Permit category II—Tree alteration, removal or relocation on property proposed for development—Requirements:**
 - Tree Replacement Program. A person owning or controlling a development project shall be required to replace trees and heritage trees approved for removal as part of the approval of the project in accordance with subdivision 1; each protected tree removed or damaged shall be replaced in accordance with subdivision 2.
 - (1) For each six inches or fraction thereof of the diameter of a tree which was approved for removal, two trees of the same genus and species as the removed tree (or another species, if approved by the Director), each of a minimum 15-gallon container size, shall be planted on the project site, provided however, that an increased number of smaller size trees of the same genus and species may be planted if approved by the Director, or a fewer number of such trees of a larger size if approved by the Director.
 - (2) For each six inches or fraction thereof of the diameter of a tree which was not approved for removal, four trees of the same genus and species as the removed tree (or another species, if approved by the Director), each of a minimum 15-gallon container size, shall be planted on the project site, provided however, that an increased number of smaller size trees of the same genus and species may be planted if approved by the Director, or a fewer number of such trees of a larger size if approved by the Director.
 - (3) If the development site is inadequate in size to accommodate the replacement trees, the trees shall be planted on public property with the approval of the Director of the City's Recreation and Parks Department. Upon the request of the developer and the approval of the Director, the City may accept an in-lieu payment of \$100.00 per 15-gallon replacement tree on condition that all such payments shall be used for tree-related educational projects and/or planting programs of the City.
- **City Code Section 20-30.040 Creekside Development:**
 - (A) Purpose. This Section requires minimum setbacks from waterways for new structures, to provide reasonable protection to owners of riparian property and the public from the hazards of stream bank failures and flooding, while allowing owners of property near waterways reasonable use of and the opportunity to improve their properties consistent with general safety.
 - (B) Applicability. No structure, including buildings of any type, swimming pools, including prefabricated swimming pools, driveways, streets, parking areas, patios, platforms, decks, fences, liquid storage tanks, mobile homes, broken concrete rubble, earth fill or other structural debris fill, or retaining walls, shall be placed within the creekside setbacks required by this Section.
 - 1. Existing structures. An existing, lawfully constructed structure that is located within a setback required by this Section is subject to the requirements for nonconforming structures in Chapter 20-61(Nonconforming Uses, Structures, and Parcels).
 - 2. Exceptions. This Section shall not apply to: Storm drainage, erosion control, and creekbank stability improvements that have been approved as required by law by the governmental agencies having jurisdiction over them.

3. Design guidelines. See also Section 4.4 (Creeks, Riparian Corridors, and Storm Drainage) of the City's Design Guidelines.
- (C) Definitions. Definitions of the technical terms and phrases used in this Section may be found in Division 7 (Glossary), under "Waterway."
- (D) Creekside setback requirements.
 1. Waterway with defined bank. The exterior boundary of the setback area on each side of a natural or modified natural waterway shall be 50 feet from the top of the highest bank on that side of the waterway, as determined by the Director. When the bank of a natural or modified natural waterway is steeper than 2.5:1, the exterior setback boundary shall be measured by the projections of a slope of 2.5:1 from the toe of the stream bank to ground level, plus 50 feet. See Figure 3-1.
 2. Waterway without defined bank. The exterior boundary of the setback area adjacent to the side of a natural or modified natural waterway, where the top of the stream bank is not defined, shall be 50 feet, measured horizontally, from the established 100-year storm freeboard level.
 3. Channelized waterway. Where a fully channelized waterway exists and the channel is owned by, or under the control of the Sonoma County Water Agency, structures may be closer to the top of the bank than a distance of 2.5 times the depth of the bank plus 50 feet, provided that this encroachment into the setback area will not obstruct or impair the channel's hydraulic functions, impede Water Agency access or maintenance of the channel, or impair the stability of the slope, bank, or maintenance of the channel, or impair the stability of the slope, bank, or creek bed fountain, all as determined by and approved by the Department, the Public Works Department, and the Sonoma County Water Agency.
 4. Exceptions.
 - a. The setbacks required in Section 20-30.040 shall be 30 feet for existing properties or adjacent areas within the City that were developed in compliance with applicable setback requirements in effect prior to September 3, 2004.
 - b. The setbacks required in Section 20-30.040 shall be 30 feet for new development that is surrounded by existing structures that were developed in compliance with applicable setback requirements in effect prior to September 3, 2004.
- E. Bridges and utilities within setback areas. Bridges for motor vehicles, pedestrians, and/or bicycles, and/or public utility infrastructure may cross through a waterway setback area and over or under its channel, provided that the installation has received all required approvals from the City. "Bridges" as used in this Subsection includes the segments of the street connecting with the ends of the bridge and the use of box culverts to contain the waters of a waterway for a street overcrossing.

The project would avoid, to the extent feasible, protected trees, and limit on-site tree removal taking into consideration site and project design constraints, health of the trees, etc. As a part of approval for on-site development, the applicant is required to demonstrate and implement consistency with the City's tree ordinance, including tree removal permits and protection of maintained trees. These actions would help to ensure that impacts to protected trees within the project site would be minimized to the maximum extent feasible. In addition, the project would be consistent with the

City's Creekside Development ordinance and would not propose structures or construction within 50-foot creek setbacks with the exception of the proposed bridge, for which all required approvals from the City would be obtained. As such, impacts related to conflicts with local policies or ordinances that protect biological resources would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.3.5 - Cumulative Impacts**Special-status Species**

The geographic scope of the cumulative biological resources analysis is the project vicinity. The project site is located in an area characterized by both urban development and undeveloped areas. Adjacent urban habitats tend to be characterized as highly disturbed, thereby localizing impacts. Adjacent undeveloped habitats are generally undisturbed, thus retaining the potential to provide habitat continuity.

The project in combination with other reasonably foreseeable projects, as well as other relevant cumulative projects as required by CEQA, is not expected to result in a significant *cumulative* impact on special-status species in the local area. As documented in this section, the project may have a substantial individual adverse impact on the following special-status wildlife species: California red-legged frog, foothill yellow-legged frog, California giant salamander, red-bellied newt, western pond turtle, pallid bat, white-tailed kite, and loggerhead shrike. However, mitigation requiring appropriate surveys and implementation of avoidance/minimization measures, as well as requirements to adhere to applicable laws and regulations that protect biological resources, would reduce the project's impact on special-status wildlife species to less than significant. Some of the other projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, are located on sites with similar biological attributes and likewise would be required to mitigate for impacts on special-status plant and wildlife species in a manner similar to the project. As such, the project, in conjunction with other cumulative projects, would result in a less than cumulatively considerable impact related to special-status species.

Waters of the United States and Riparian Habitat

The project in combination with other reasonably foreseeable projects is not expected to result in a cumulative impact on jurisdictional waters or riparian habitats in the local area. The project would not result in impacts to waters of the United States, as the design of the bridges across the three creeks present on-site would avoid these areas. However, small areas of riparian habitat will be

impacted in order to make way for these bridges. MM BIO-2a and MM BIO-2b are proposed, requiring the applicant to obtain any permits from the USACE, CDFW, and RWQCB as may be required under applicable laws and regulations, and adhere to all conditions imposed as part of permit issuance (e.g., compensate for loss of waters of the United States through re-creation or payment of mitigation credits, and re-creation of lost riparian habitat at a 1:1 ratio, etc.). Implementation of these measures would protect the habitat value of the site's existing riparian corridors and their ability to serve as wildlife corridors. Other cumulative projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, may be located on sites with waters of the United States and likewise would be required to mitigate for impacts in a manner similar to the project. As such, the project, in conjunction with other cumulative projects, would result in a less than significant cumulative impact related to waters of the United States and associated riparian habitat.

Protected Trees

The project in combination with other reasonably foreseeable projects is not expected to result in a cumulative impact on protected trees in the local area. The project would require the removal of approximately 409 trees protected by City ordinances. The project would be required to comply with the City's tree ordinance and Creekside Development Ordinance, both of which contain provisions related to the removal of trees. Other projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, may require the removal of trees and likewise would be subject to the City's ordinances. County projects would be subject to the County's tree preservation ordinance, which is in Sonoma County Code Chapter 26D. As such, the project, in conjunction with other cumulative projects, would result in a less than significant cumulative impact related to consistency with the applicable biological resource ordinances of the City.

Wildlife Corridors

The project is expected not to have significant cumulative impacts on wildlife corridors in the local area. Other projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, could impact wildlife corridors. However, the implementation of MM BIO-1a through MM BIO-1g and similar measures should reduce these impacts to less than significant levels. As such, the project, in conjunction with other cumulative projects, would result in a less than significant cumulative impact to wildlife corridors.

Overall

Overall, biological resources cumulative impacts would be less than significant, since the cumulative special-status species, riparian habitat, and protected trees impacts would be less than significant.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

3.4 - Cultural Resources and Tribal Cultural Resources

3.4.1 - Introduction

This section describes existing cultural and tribal cultural resources in the region and project vicinity as well as the relevant regulatory framework. This section also evaluates the potential impacts related to cultural and tribal cultural resources that could result from implementation of the project. Information included in this section is based, in part, on the Phase I Cultural Resource Assessment (Phase I CRA) prepared for the project by FCS. This and additional resource details are included in confidential Appendix E, portion of which have been withheld from public disclosure pursuant to Pub. Resources Code, §§ 5097.9, 5097.993. The following comments were received during the Environmental Impact Report (EIR) scoping period related to cultural resources:

- Concern regarding archeological resources and tribal consultation
- Concern regarding cultural resources within Trione-Annadel State Park

3.4.2 - Environmental Setting

Cultural Resources Components

The term “cultural resources” encompasses historic, archaeological, and burial sites. Below is a brief summary of each component:

- **Historic Resources:** Historic resources are associated with the recent past. In California, historic resources are typically associated with the Spanish, Mexican, and American periods in the State’s history and are generally less than 200 years old.
- **Archaeological Resources:** Archaeology is the study of artifacts and material culture with the aim of understanding human activities and cultures in the past. Archaeological resources may be associated with prehistoric indigenous cultures as well as historic periods.
- **Tribal Cultural Resources:** Tribal Cultural Resources (TCRs) include sites, features, places, or objects that are of cultural value to one or more California Native American Tribes.
- **Burial Sites:** Burial sites and cemeteries are formal or informal locations where human remains have been interred.

Overall Cultural Setting

Following is a brief overview of the prehistory, ethnography, and historic background, providing a context in which to understand the background and relevance of sites found in the general project vicinity. This section is not intended to be a comprehensive review of the academic literature and

studies available; rather, it serves as a general overview. Further details can be found in ethnographic studies, mission records, and major published sources.^{1,2,3,4,5,6}

Prehistoric Background

In general, archaeological research in the greater San Francisco Bay Area has focused on coastal areas, where large shellmounds were relatively easily identified on the landscape. This research and its chronological framework, however, is relevant to and has a bearing on our understanding of prehistory in areas north of the San Francisco Bay, including modern Santa Rosa.

Like many California cultural chronologies, the greater San Francisco Bay Area has a complex history. As synthesized by Milliken et al., three major chronologic frameworks exist for the Bay Area: an Archaic-Emergent temporal structure; the Central California Taxonomic System (CCTS) and a “hybrid system” which utilizes the overarching CCTS scheme, while further demarcating time depth/period changes regionally, as used in the Archaic-Emergent temporal structure.⁷ Specifically, regional cultural patterns and phases are further defined within the San Francisco Bay Area by Dating Scheme D, which utilizes dated Olivella shell bead horizons. Milliken et al. used the term “bead horizons” to define the passage of short periods of time by the shifts in the trade of specific bead types throughout the Bay Area.⁸ This builds on Fredrickson, who proposed a chronology for the broader San Francisco Bay Area region, including the Santa Rosa area. Fredrickson’s chronology is based on material patterns and includes the Windmill Pattern (2500 Before Common Era [BCE]–1000 BCE), Berkeley Pattern (2000 BCE–Common Era [CE] 500) and the Augustine Pattern (500 CE–1880 CE). The Windmill Pattern is typified by a hunter-gatherer subsistence pattern, which included the exploitation of wild plants, game, and fish. Typical artifacts include clay balls, fishing hooks, fishing spears and ground stone tools. Artifacts from the Berkeley Pattern era reflect an increasing reliance on acorns, as mortars and pestles become more prolific. The Augustine Period was a period of increasing social complexity. Acorns continued to be the dominant food source and settlement patterns reflected an increasing sedentary lifestyle.⁹

The Lower Archaic, 8000–3500 BCE, is typified in the Bay Area by a forager and gatherer lifestyle, as evidenced by the prevalence of milling slabs, hand stones, and large, wide-stemmed and leaf-shaped projectile points. The Middle Archaic, 3500-500 BCE, saw an increase in the presence of ground stone and cut shell beads, indicating that groups in the Bay Area were transitioning to a more sedentary lifestyle, interregional trade was increasing, and as the beads were found in mortuary contexts, that symbolism was becoming a regional identifier. The Early Upper Archaic, 500 BCE to 430 CE, saw a shift away from cut beads to Olivella beads, and along the bay, a new emphasis on

¹ Kroeber, A.L. 1925. Handbook of the Indians of California. Bulletin 78. Bureau of American Ethnology. Washington, D.C.: Smithsonian Institution.

² Beardsley, R.K. 1948. “Cultural Sequences in Central California Archaeology.” American Antiquity 14:1-28.

³ Bennyhoff, J. 1950. Californian Fish Spears and Harpoons. Berkeley: University of California Anthropological Records 9(4):295-338.

⁴ Chertkoff J.L. and K.K. Chertkoff. 1984. The Archaeology of California. Menlo Park: Stanford University Press.

⁵ Moratto, M.J. 1984. California Archaeology. San Diego: Academic Press.

⁶ Jones, T.L. and Kathryn A. Klar. 2007. California Prehistory. Lanham: AltaMira Press; Rowman & Littlefield Publishers, Inc.

⁷ Milliken, Randall, Richard T. Fitzgerald, Mark G. Hylkema, Randy Groza, Tom Origer, David G. Bieling, Alan Leventhal, Randy S. Wiberg, Andrew Gottfield, Donna Gillette, Vaviana Bellifemine, Eric Strother, Robert Cartier, and David A. Fredrickson. Punctuated Culture Change in the San Francisco Bay Area, In Prehistoric California: Colonization, Culture, and Complexity, edited by T.L. Jones and K.A. Klar, 99–124. AltaMira Press. 2007.

⁸ Ibid.

⁹ Moratto, M.J. 1984. California Archaeology. San Diego: Academic Press.

Haliotis ornaments and bone tools, with net sinkers largely disappearing from assemblages. The Late Upper Archaic, 430 to 1050 CE, further defined by the bead phases M1–M4, is another time of transition, as saucer-shaped Olivella beads disappear from the record and Olivella saddle beads became dominant. The appearance of the saddle shaped Olivella beads coincides with the appearance and increase in Meganos complex dorsal extended burials. The Lower Emergent Period, 1050 to 1550 CE, is characterized by increasing complexity as beads were being produced for collectors as opposed to being produced primarily as mortuary items. Sedentism and increasing social stratification is evidenced by settlement patterns and mortuary practices.¹⁰ The Terminal Late Period saw change in the North Bay, as clamshell disk beads became prevalent, along with the toggle harpoon, hopper mortar, plain corner-notched arrow-sized projectile points, and magnesite tube beads; however, this was not the case in the South Bay. By 1650, only Olivella-lipped and spire-lopped beads were present.

Settlement patterns north of San Francisco Bay have varied over time. The currently accepted understanding of settlement patterns in this area is that a foraging and hunter-gatherer lifestyle centering on lacustrine resources remained dominant in the region until the Lower to Middle Archaic. At this point, there was a shift from foraging lacustrine resources to developing semi-permanent villages near marshes and grasslands, in order to gather those specific resources. This was followed by a shift to foragers residing in residential camps, with more consistent settlement occurring in “collector villages” during the Upper Archaic. By the Emergent Period, collectors were living in semi-permanent villages in oak woodlands, which residential camps were now located along marshes.

Ethnographic Background

The project site lies at the intersection of lands that were controlled by two separate ethnographic groups at the time of European Contact: the Western Wappo and Southern Pomo. Each group may have shared access to the region at different points in time, and given the high degree of trade and interaction, as well as shifting demographics over time, a description of both groups follows.

The Southern Pomo

The Pomoan language family consists of seven distinct languages, the speakers of whom began to be grouped together in anthropological literature under the generic term “Pomo” as early as the 1850s. Barrett was the first to establish the geographic boundaries of these linguistic groups in relation to one another, defining them as Southwestern Pomo, Southern Pomo, Central Pomo, Northern Pomo, Northeastern Pomo, Eastern Pomo, and Southeastern Pomo.¹¹ While differing linguistically, many cultural similarities were noted by early observers, such as the division of society into small groups centered around a main village that controlled territory recognized by neighboring tribes and other Pomoan-speaking groups. The size of each group’s territory appears to have varied considerably depending on the terrain, natural resources, and carrying capacity of the land. As a result, smaller

¹⁰ Milliken, Randall, Richard T. Fitzgerald, Mark G. Hylkema, Randy Groza, Tom Origer, David G. Bieling, Alan Leventhal, Randy S. Wiberg, Andrew Gottfield, Donna Gillette, Vaviana Bellifemine, Eric Strother, Robert Cartier, and David A. Fredrickson. Punctuated Culture Change in the San Francisco Bay Area, In Prehistoric California: Colonization, Culture, and Complexity, edited by T.L. Jones and K.A. Klar, 99–124. AltaMira Press. 2007.

¹¹ Barrett, S.A. 1908. The Ethnography of Pomo and Neighboring Indians. Berkeley: University of California Publications in American Archaeology and Ethnology 6.

villages could consist of as few as 150 inhabitants with others boasting populations as large as 1,000 to 1,500.¹²

While the Pomo are often claimed to be among the most studied tribal groups in California, early research on Pomoan-speaking groups often relied on second-hand accounts from white settlers, thereby favoring some groups—such as the Northern, Central and Eastern Pomo—over others. As a result, knowledge about the lifeways and traditions of other groups, including the Southern Pomo, is lacking. It is known, however, that village sites were occupied throughout the year, and other sites were visited in order to procure particular resources that were abundant or available only during certain seasons. Villages were often situated near freshwater sources and in environments where plant and animal life were diverse and abundant. Important sources of food for these village-communities included large manzanita trees, acorn trees, and fishing sites that could be privately owned by individual families, or communally shared within the tribe. Political organization seems to have varied considerably as well, with some tribes electing a single chief and others relying on a council of hereditary elders.¹³

The Western Wappo

The project site and vicinity are near the ethnographic territory of the Western Wappo, which included two divisions by dialect, along the south edge of Clear Lake, and from just above Napa and Sonoma in the south to Cloverdale and Middletown to the north. The Wappo language belongs to a small family of four languages, including Yuki, Coastal Yuki, and Huchnom. It is divided into five dialects distributed across two major territorial divisions. The smaller area included lands along the southern edge of Clear Lake; the larger ranged from just north of Napa in to south to Geyserville and Middletown in the north. The Wappo were known to adopt words from other languages spoken in their vicinity, including Spanish names of objects with which they came into contact as a result of missionization. Of the 100 or known Wappo place names, at least one, cho*nóma, (meaning “abandoned camp”), remains in use as the probable Wappo name for the town of Sonoma.¹⁴

Like their Pomo neighbors, the basic sociopolitical unit was the village, which was usually located on a creek or other water source. Villages included one or two sweathouses as well as houses of varying size. One of the last remaining traditional Wappo villages observed in 1870 consisted of 11 grass houses serving 21 families totaling 92 people. Each house was made of grass thatch over a framework of bent poles, and had a separate entrance and smoke-hole for each family inhabiting it. Basic tools consisted of wedges, axes, and drills made from stones, sticks, shells, and plants. Like the Pomo, the Wappo had a tradition of creating intricately woven baskets that were both functional and decorative. This tradition, along with several surviving songs and dances attributed to the Wappo, were primary forms of artistic expression. Imported clamshell beads and magnesite cylinders served as units of exchange and items of personal adornment. Food sources included a

¹² Gifford, E.W., with A. L. Kroeber. 1939. Cultural Element Distributions, IV: Pomo. Berkeley: University of California Publications in American Archaeology and Ethnology 23.

¹³ McLendon, S., and Oswalt R.L. 1978. Pomo: Introduction. Handbook of North American Indians California Volume 8. Robert F. Heizer, Editor, pp. 274–288. Washington, D.C.: Smithsonian Institution.

¹⁴ Sawyer, J.O. 1978. Wappo. Handbook of North American Indians California Volume 8. Robert F. Heizer, Editor, pp. 256–264. Washington, D.C.: Smithsonian Institution.

variety of plants and creatures, including acorns, buckeye, clover, abalone, clams, turtles, salmon, ducks, rabbits, and deer.¹⁵

The Wappo had at least seven villages in the Geyserville area north of the project site, and estimates of their total population range from 5,000 to 8,000. Village chiefs might be elected or appointed, based on the organization of the individual village. Both men and women could occupy the role of chief, and some villages even had multiple chiefs, each with different spheres of influence, including trade, ceremonial roles, and warfare. The Wappo were generally regarded as a peaceful people, except during the Wappo-Pomo War in the early 19th Century. The Wappo apparently attacked and killed members of the Alexander Valley Pomo who had carried away some Wappo supplies of acorns. The Pomo sought peace, which was granted immediately; however, the Pomo never returned to their Alexander Valley villages north of Healdsburg. The Wappo also tried to resist Spanish incursions and colonial expansion into their territories, but like their neighbors the Pomo, their numbers were decimated by smallpox, hostility from the Mexican Army, and later by Euro-American settlements in the 1850s.¹⁶

Regional Historic Background

The history of Northern California can be divided into several periods of influence; pertinent historic periods are briefly summarized below.

Spanish Period

The establishment of the Spanish Mission system brought drastic and permanent changes to the Wappo and Pomo ways of life. By the early 1800s, the mission Fathers began a process of cultural change that brought the majority of the local Native Americans into the missions. At the expense of traditional skills, the neophytes were taught the pastoral and horticultural skills of the Hispanic tradition. Spanish missionaries traveled into the Valley to recapture escaped neophytes and recruit inland Native Americans for the coastal missions. In 1834, the mission system was officially secularized, and the majority of the mission Native American population dispersed to local ranches, villages, or nearby pueblos. Following the collapse of the mission system, many of the local Native Americans returned to Northern California, bringing with them language and agricultural practices learned from the Spanish. During the latter half of the 19th Century, the size of all Pomo populations dwindled dramatically, due to the spread of European settlements and the diseases the Europeans brought with them.

Mexican Period

With the declaration of Mexican independence in 1821, Spanish control of Alta California ended, although little change actually occurred. Political change did not take place until mission secularization in 1834, when Native Americans were released from missionary control and the mission lands were granted to private individuals. Mission secularization removed the social protection and support on which Native Americans had come to rely. It exposed them to further exploitation by outside interests, often forcing them into a marginal existence as laborers for large

¹⁵ Sawyer, J.O. 1978. Wappo. Handbook of North American Indians California Volume 8. Robert F. Heizer, Editor, pp. 256–264. Washington, D.C.: Smithsonian Institution.

¹⁶ *Ibid.*

ranchos. Following mission secularization, the Mexican population grew as the native population continued to decline. Anglo-American settlers began to arrive in Alta California during this period and often married into Mexican families, becoming Mexican citizens, which made them eligible to receive land grants. In 1846, on the eve of the U.S.-Mexican War (1846 to 1848), the estimated population of Alta California was 8,000 non-natives and 10,000 natives. However, these estimates have been debated. Researchers believe the Native American population was 100,000 in 1850; the U.S. Census of 1880 reports the Native American population as 20,385.

American Period

In 1848, as a result of the Treaty of Guadalupe Hidalgo, California became a United States territory. Also, in 1848 John Marshall found gold at Sutter's Mill, which marked the start of the Gold Rush. The influx of miners and entrepreneurs increased the population of California, not including Native Californians, from 14,000 to 224,000 in just 4 years.

Santa Rosa Regional History

In the early 1800s, the Spanish began to arrive in the Santa Rosa area. The first deeded land—held as the Rancho Cabeza de Santa Rosa—was given to Señora Maria Ignacia Lopez de Carrillo. In 1837, she built an adobe structure at the junction of ancient Native American trading routes near present-day Farmer's Lane and Sonoma Highway. The ruins still stand today and are located adjacent to St. Eugene's Church.

The discovery of gold brought more people through Santa Rosa on their way to the Sierra foothills. Some who were seeking gold thought that farming would bring more wealth after seeing the rich farmland in the Santa Rosa Valley, and an agricultural community soon flourished. In the early 1850s, other travelers came to Santa Rosa to establish commercial ventures, including Berthold Hoen, Feodor Gustav Hahman, and William Hartman, who purchased a tract of land that had originally been owned by Julio Carrillo, son of Señora Maria Ignacia Lopez de Carrillo. The younger Carrillo still owned an adjacent tract of land, and they convinced him to join their partnership; together, they plotted out a town called Santa Rosa, offering all the lots for \$25 apiece. In 1854, Barney Hoen campaigned to bring the county seat to Santa Rosa, and, in 1867, the town was granted incorporation by the Sonoma County Board of Supervisors. The State of California affirmed the incorporation in 1868. The coming of the railroad in 1870 fortified Santa Rosa's success, and the population increased tenfold.

Santa Rosa's diverse collection of settlers resulted in a rich architectural heritage that spanned many periods. Santa Rosa has 19 historic landmarks and six designated historic preservation districts. The City's historic districts are located near the downtown over 3.5 miles from the project site. Some notable landmarks include but are not limited to the Luther Burbank Home and Gardens, the Fountain Grove Winery and the Santa Rosa Air Center.

Luther Burbank came to Santa Rosa in the late 1800s and lived there for more than 50 years. During his career, the famed horticulturist introduced more than 800 new varieties of plants. Burbank's home and garden are located in downtown Santa Rosa and have been certified as Registered National, State, City, and Horticultural Historical Landmarks.

The Fountaingrove Winery was established by Thomas Lake Harris, who wrote booklets about his spiritual philosophy; he founded a group called the Brotherhood of New Life in London in the 1860s. Harris had first established a colony in upstate New York and eventually moved to Santa Rosa. In 1885, he established the Fountaingrove community, where he built a Victorian mansion, founded the Fountaingrove winery, and built living quarters for his spiritual followers. One member of his brotherhood was Kanaye Nagasawa. Having been brought to America from Japan by Harris, Nagasawa was one of the first Japanese to arrive in the United States. Harris eventually moved from Santa Rosa and left the winery to Nagasawa who—along with Harris’s followers—ran the winery until his death in 1934. The winery buildings have since been removed; however, the contributions of Harris, Nagasawa, and the Fountaingrove community to the fabric of Santa Rosa history remain.

The Santa Rosa Air Center began as a Navy Auxiliary Air Station that was commissioned in 1943. During World War II, 21 squadrons received their final training in fighters, bombers, and torpedo planes in Santa Rosa. Santa Rosa’s status changed from a Navy Auxiliary Air Station to an Outlying Landing Field of Alameda in 1947. Following the Korean War, the Navy deeded the facility to the City of Santa Rosa. The airport was known as the Santa Rosa Air Center and remained open until 1993.

Today, Santa Rosa remains the county seat of Sonoma County. A series of wildfires in October of 2017 destroyed large sections of the City bordering on the project site; however, the community has responded with the same resilience that is characteristic of the City’s rich history. Agriculture and the wine industry remain vital parts of the economy, as are the high-tech, bio-medical, and tourism industries.

Records Searches and Surveys to Identify Existing Cultural Resources

Northwest Information Center

On June 8, 2017, FCS Senior Archaeologist, Dr. Dana DePietro, RPA, conducted a records search at the Northwest Information Center (NWIC) located at Sonoma State University in Rohnert Park, California for the project site and a 0.5 mile radius beyond its boundaries. To identify any historic properties or resources, the current inventories of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historical Landmarks (CHL) list, the California Points of Historical Interest (CPHI) list, and the Historical Resources Inventory (HRI) for Sonoma County were reviewed to determine the existence of previously documented resources.

The results of the records search indicated the project area is highly sensitive for prehistoric cultural resources. Details regarding the nature and location of these sensitive resources have been withheld from public disclosure pursuant to Pub. Resources Code, §§ 5097.9, 5097.993. These details, along with complete records search results may be found in confidential appendix E.

Native American Heritage Commission Records Search and Tribal Correspondence

On June 10, 2017, a letter was sent to the Native American Heritage Commission (NAHC) in an effort to determine whether any sacred sites or TCRs are listed on its Sacred Lands File for the project site or within the 0.5-mile radius. A response was received on June 30, 2017 indicating that the results from the Sacred Lands File search were negative; however, the letter stated that the absence of specific site information did not negate the possibility that TCRs may be present within the project site, and

recommended consultation with local tribal representatives. To this end, the NAHC included a list of six tribal representatives available for consultation. To ensure the protection of potential TCRs and address potential related concerns, FSC sent a letter containing project information and requesting any additional information to all six tribal representatives identified by the NAHC on July 6, 2017. In addition, and pursuant to Assembly Bill (AB) 52, project referrals were sent by the City to tribal representatives from Lytton Rancheria and Graton Rancheria on June 4, 2018.

On January 17, 2019, tribal representatives from Graton Rancheria responded with a request to engage in consultation with the City. The City responded to this request, and remains in active consultation with Graton Rancheria on project design and appropriate mitigation to avoid impacts to TCRs.

On January 24, 2019, Lytton Rancheria also responded the City's notification letter. The tribe did not request formal consultation, but requested avoidance of all known sites, as well as archaeological and/or tribal monitoring during ground disturbance into native soils. Notification letters and tribal correspondence may be found in confidential Appendix E.

Archaeological Pedestrian Survey

On August 25, 2017, FCS Senior Archaeologist, Dr. Dana DePietro, RPA, completed a pedestrian survey of the project site. The site consists of approximately 68.73 acres bordered by Sonoma Highway to the northeast, residential developments to the northwest and southeast, and the Trione-Annadel State Park to the southwest. A northwest/southeast ridgeline runs across the middle of the project site, roughly dividing the area into northern and southern halves. Details regarding the nature and location of sensitive resources addressed as part of the pedestrian survey have been withheld from public disclosure pursuant to Pub. Resources Code, §§ 5097.9, 5097.993. These details, along with photographs from the pedestrian survey, may be found in confidential Appendix E.

Historic and Architectural Resource Evaluation

Three homes and associated structures were all destroyed in the Glass Fire (September and October 2020); therefore, the following analysis of the structures is presented for informational purposes, as it was completed prior to the Glass Fire.

The NWIC records search did not reveal any recorded historic-era structures on-site, however, a review of historic aerial photographs dating back to the 1940s revealed that two of the residences (415 Elnoka Lane and 440 Brand Road) are over 45 years in age, and have not previously evaluated for historic significance. Properties over 45 years in age are considered potential historic resources under the California Environmental Quality Act (CEQA) and, thus, require determination as to whether the property is eligible for the CRHR or local listing and, in turn, could be considered a significant historic resource under CEQA.

In order to assess the potential historic significance of the on-site buildings at 415 Elnoka Lane and 440 Brand Road, as well as persons and events associated with those structures, FCS architectural historian Sonia M. Miller researched the archives of the building departments of the City of Santa Rosa and Sonoma County, the Sonoma County property assessor's records, and the History and

Genealogy Library of the Sonoma County Library on September 19 and 25, 2017. Thorough searches of museum archives as well as newspaper databases, including The Press Democrat, were performed for each street address, as well as for the name of each individual associated to its record. Using this information, Ms. Miller evaluated the historic and architectural significance of the two residences relative to the four following CRHR eligibility criteria:

- **CRHR Criterion 1:** Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
- **CRHR Criterion 2:** Associated with the lives of persons important to local, California, or national history.
- **CRHR Criterion 3:** Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
- **CRHR Criterion 4:** Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Criterion 1 (Event). The two residences at 415 Elnoka Lane and 440 Brand Road fit marginally within the urbanization of this rural area at the fringes of the Trione-Annadel State Park, prior to the annexation to the City of Santa Rosa. The land where the subject properties are located comprises parcels derived from the division of the original 18,800-acre Rancho Los Guillicos. The division of the rancho caused the land to pass from hand to hand, beginning with William Hood in 1849, to Samuel Hutchinson in 1871, to Henry Bolle in 1880, and finally to Joe Coney in 1934. The local economy was primarily centered on farming, ranching, mining, and wine making until Coney sold a large portion of the land to developer and speculator H.N. Frances Berger in 1963. The 1963 acquisition started Berger's stronghold over the local economy (a period referred to as the Berger era) and marked the beginning of a specialized urbanization that drastically changed the area's social composition, influenced cultural production, and redirected the local economy. The year of 1963, particularly coincided with Berger's development of the Oakmont Village, a master planned retirement community situated near the foot of Hood Mountain in the "Valley of the Moon," located opposite to the subject properties off Sonoma Highway. Berger's newly formed community drastically increased the area's number of residents, attracting many middle-class city dwellers that since the 1950s had fled to the suburbs, allowing the initial land-real estate speculative ventures in the area to start in full fledge. Although the subject properties are marginally part of that process of expansion and growth, they do not meet CRHR Criterion 1: Event, as they are located outside of the area directly affected by this early process of suburbanization.

Criterion 2 (Person). The residence at 415 Elnoka Lane was owned by individuals who occupied the residence briefly and then moved to other locations, and who are not present in the published accounts of the local and regional history, or of the history of the United States. Thus, the property at 415 Elnoka Lane does not meet CRHR Criterion 2: Person. The property at 440 Brand Road was associated with Fritz Brand and his family, who owned, occupied, and leased the buildings for several decades. Neither Fritz Brand nor his family is present in the published accounts of local and regional

history, or of the history of the United States, nor are they associated with significant local or regional historical events. Thus, their property does not meet CRHR Criterion 2: Person.

Criterion 3 (Architecture). The house at 415 Elnoka Lane was built by unknown architects and was drastically redesigned by Sebastopol designer Jim Logging in 1982. While owned by Mr. and Mrs. Kersch, the house underwent a sequence of radical interventions between 1982 and 1986 that led to the transformation of the L-shaped-asymmetrical floor plan, characteristic of Ranch residences, into a front-bearing neo-eclectic (neo-classical) design. This remodel followed an overall popular, neo-eclectic trend of the early 1980s, which had reintroduced architectural styles popular in the early 20th Century (such as Colonial Revival, Tudor, Neoclassical, French, Italian, Renaissance, Spanish, Craftsman (aka American Arts and Crafts), and Prairie) with relatively awkward proportions and details. The prominent question being raised about such neo-eclectic architecture (or postmodern architecture) appearing since the late 1970s to today is whether it can be considered a style. More often, neo-eclectic will be eligible as a district with the relationship between the street and other buildings of primary concern in addressing eligibility. This building stands on its own and is not part of a “New Urbanist” neighborhood, nor does the City of Santa Rosa have an historic context statement for postmodern architecture or neighborhoods designed according to the new urbanist philosophy. The building at 415 Elnoka Lane, therefore, does not appear to be a significant enough example of postmodern architecture to be considered eligible for listing on the CRHR under Criteria 3.

The house at 440 Brand Road was also designed by unknown architects and was possibly built over the footprint of a former building. It exemplifies the typical orientation of the “Contemporary House,” as well as the contemporary style’s concern with the functionality of interior spaces in the way these related to the outdoors. The house at 440 Brand Road has elements typically found in “contemporary houses,” such as the downplayed entrance, recessed and tucked inside the carport and concealed by the entry garden. The façade also reveals little of the house with many of the spaces concealed and the entrance placed at mid-section, allowing the omission of the central hall. On the other hand, elements that are important features of the “contemporary house” are missing in the present residence, such as the panelized appearance, post-and-beam construction, planked roofs, and window units forming walls that create the spatial effect of the inside flowing out typical of contemporary design. The house at 440 Brand Road has a traditional pitched and gabled roof, common exterior finishes, and a fenestration of smaller slider windows, with an outdoor area that follows the convention of the Ranch residence. The contemporary style started losing popularity at the time the current residence was built (1965–1966) and the ranch style proliferated in most suburban subdivisions. A major strike against the Contemporary design was the reluctance of lending institutions in financing avant-garde design in favor of the popular Ranch style. Thus, the residence at 440 Brand Road appears to be a hybridization of the ranch-style house, possessing very little ornamental details, and is not a distinguished example of construction design and techniques from its periods. As such, the building at 440 Brand Road does not appear eligible for listing on the CRHR under Criteria 3.

Criterion 4 (Information). Information potential is most often used to evaluate archaeological sites or buildings that employ unusual building techniques. There is no evidence that either property exhibits any unusual construction features, or has the ability to contribute significant information to the overall local or regional history.

In summary, the existing residences at 415 Elnoka Lane and 440 Brand Road do not appear to meet any of the criteria for historic and/or architectural significance required for listing on the CRHR. As such, they are not considered historical resources under CEQA. In addition, they do not appear to possess sufficient artistic merit or historical association to meet a local standard for historical importance. Furthermore, the residences as a group do not contribute to the general character of the neighborhood through a unified historical period or architectural theme and, thus, cannot be considered as contributing structures to a potential historic district. Supporting Department of Parks and Recreation (DPR) resource recordation forms were prepared for each of the residential buildings and are included in confidential Appendix E.

Summary of Existing Cultural Resources at the Project Site

Historic Architectural Resources

As previously detailed, two residences over 45 years in age are located within the project site at 415 Elnoka Lane and 440 Brand Road. Both residences were evaluated by FCS Architectural Historian Sonia Miller and do not appear to meet any of the criteria for historic and/or architectural significance required for listing on the CRHR. As such, they are not considered historical resources under CEQA, and no additional historic-era resources were recorded at the site.

Archaeological and Tribal Cultural Resources

Results from the NWIC, NAHC, and a pedestrian survey conducted by FCS indicate the project site and vicinity is highly sensitive for prehistoric archaeological resources. Resource details have been withheld from public disclosure pursuant to Pub. Resources Code, §§ 5097.9, 5097.993. The City has remained in action consultation with the Federated Indians of Graton Rancheria on project design and appropriate mitigation to avoid impacts to TCRs.

3.4.3 - Regulatory Framework

Federal

National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA), as amended, established the NRHP, which contains an inventory of the nation's significant prehistoric and historic properties. Under Title 36, Code of Federal Regulations Part 60, a property is recommended for possible inclusion on the NRHP if it is at least 50 years old, has integrity, and meets one of the following criteria:

- It is associated with significant events in history, or broad patterns of events.
- It is associated with significant people in the past.
- It embodies the distinctive characteristics of an architectural type, period, or method of construction; or it is the work of a master or possesses high artistic value; or it represents a significant and distinguishable entity whose components may lack individual distinction.
- It has yielded, or may yield, information important in history or prehistory.

Certain types of properties are usually excluded from consideration for listing in the NRHP, but they can be considered if they meet special requirements in addition to meeting the criteria listed above. Such properties include religious sites, relocated properties, graves and cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (ARPA) amended the Antiquities Act of 1906 (16 United States Code [USC] 431–433) and set a broad policy that archaeological resources are important to the nation and should be protected, and required special permits before the excavation or removal of archaeological resources from public or Indian lands. The purpose of ARPA was to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites that are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data that were obtained before October 31, 1979.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act established federal policy to protect and preserve the inherent rights of freedom for Native groups to believe, express, and exercise their traditional religions. These rights include but are not limited to access to sites, use and possession of sacred objects, and freedom to worship through ceremonies and traditional rites.

State

CEQA Guidelines Section 15064.5(a)—CEQA Definition of Historical Resources

CEQA Guidelines Section 15064.5(a), in Title 14 of the California Code of Regulations, defines a “historical resource” as:

- (1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR.
- (2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- (3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the CRHR.

- (4) The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

Therefore, under the CEQA Guidelines, even if a resource is not included on any local, State, or federal register, or identified in a qualifying historical resources survey, a lead agency may still determine that any resource is a historical resource for the purposes of CEQA if there is substantial evidence supporting such a determination. A lead agency must consider a resource to be historically significant if it finds that the resource meets the criteria for listing in the CRHR.

Archaeological and historical sites are protected pursuant to a wide variety of State policies and regulations, as enumerated in the Public Resources Code. Cultural resources are recognized as nonrenewable resources and receive additional protection under the Public Resource Code and CEQA.

CEQA Guidelines Section 15064.5(a)(3)—California Register of Historical Resources Criteria

As defined by Section 15064.5(a)(3)(A-D) of the CEQA Guidelines, a resource shall be considered historically significant if the resource meets the criteria for listing on the CRHR. The CRHR and many local preservation ordinances have employed the criteria for eligibility to the NRHP as a model (see criteria described above under the description of the NHPA), since NHPA provides the highest standard for evaluating the significance of historic resources. A resource that meets NRHP criteria is clearly significant. In addition, a resource that does not meet NRHP standards may still be considered historically significant at a local or state level.

CEQA Guidelines—Effects on Archaeological Resources

The CEQA Guidelines state that a resource need not be listed on any register to be found historically significant. The CEQA Guidelines direct lead agencies to evaluate archaeological sites to determine if they meet the criteria for listing in the CRHR. If an archaeological site is a historical resource, in that it is listed or eligible for listing in the CRHR, potential adverse impacts to it must be considered. If an archaeological site is considered not to be an historical resource but meets the definition of a “unique archeological resource” as defined in Public Resources Code Section 21083.2, then it would be treated in accordance with the provisions of that section.

CEQA Guidelines Section 15064.5(d)—Effects on Human Remains

Native American human remains and associated burial items may be significant to descendant communities and/or may be scientifically important for their informational value. They may be significant to descendant communities for patrimonial, cultural, lineage, and religious reasons. Human remains may also be important to the scientific community, such as prehistorians, epidemiologists, and physical anthropologists. The specific stake of some descendant groups in ancestral burials is a matter of law for some groups, such as Native Americans (CEQA Guidelines § 15064.5(d); PRC § 5097.98). CEQA and other State regulations regarding Native American human remains provide the following

procedural requirements to assist in avoiding potential adverse effects on human remains within the contexts of their value to both descendant communities and the scientific community:

- When an initial study identifies the existence or probable likelihood that a project would affect Native American human remains, the lead agency is to contact and work with the appropriate Native American representatives identified through the NAHC to develop an agreement for the treatment and disposal of the human remains and any associated burial items (CEQA Guidelines § 15064.5(d); PRC § 5097.98).
- If human remains are accidentally discovered, the county coroner must be contacted. If the county coroner determines that the human remains are Native American, the coroner must contact the NAHC within 24 hours. The NAHC must identify the most likely descendant (MLD) to provide for the opportunity to make recommendations for the treatment and disposal of the human remains and associated burial items.
- If the MLD fails to make recommendations within 24 hours of notification or the project applicant rejects the recommendations of the MLD, the Native American human remains and associated burial items must be reburied in a location not subject to future disturbance within the project site (PRC § 5097.98).
- If potentially affected human remains or a burial site may have scientific significance, whether or not it has significance to Native Americans or other descendent communities, then under CEQA, the appropriate mitigation of effect may require the recovery of the scientific information of the remains/burial through identification, evaluation, data recovery, analysis, and interpretation (CEQA Guidelines § 15064.5(c)(2)).

California Assembly Bill 52—Effects on Tribal Cultural Resources

AB 52 amended the CEQA statute to identify an additional category of resource to be considered under CEQA, called “Tribal Cultural Resources.” It added Public Resources Code Section 21074, which defines “Tribal Cultural Resources” as follows:

- (a) “Tribal cultural resources” are either of the following:
 - (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - A) Included or determined to be eligible for inclusion in the CRHR.
 - B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
 - (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Local

Santa Rosa 2035 General Plan

The Santa Rosa 2035 General Plan established the following goals and policies related to cultural resources that are relevant to this analysis:

- **HP-A:** Protect Native American heritage.
- **HP-A-1:** Review proposed developments and work in conjunction with Sonoma State University's Northwest Information Center to determine whether sites contain known Native American resources or have the potential for such resources.
- **HP-A-2:** Require that areas found to contain significant artifacts be examined by a qualified consulting archaeologist for recommendations concerning protection and preservation.
- **HP-A-3:** If cultural resources are encountered during development, work should be halted to avoid altering the materials and their context until a qualified consulting archeologist and Native American representative (if appropriate) have evaluated the situation, and recorded identified cultural resources and determined suitable mitigation measures.
- **HP-A-4:** Consult with local Native American tribes to identify, evaluate, and appropriately address cultural resources and tribal sacred sites through the development process.
- **HP-A-5:** Ensure that Native American human remains are treated with sensitivity and dignity and assure compliance with the provisions of the California Health and Safety Code Section 7050.0 and California Public Resources Code Section 5097.98.

3.4.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G, to determine whether impacts related to cultural resources are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- c) Disturb any human remains, including those interred outside of formal cemeteries?

Additionally, the following questions are analyzed and evaluated with regard to TCRs. Would the project:

- d) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

- e) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

Approach to Analysis

This evaluation focuses on whether the project would significantly impact historic architectural, archaeological, or tribal cultural resources.

The project may have a significant impact on a historical resource if construction of the project would impair a resource's eligibility for inclusion in the CRHR. Analysis is based on information collected from record searches at the NWIC, additional archival research, pedestrian surveys, and information from historic architectural assessment of existing properties over 45 years in age located within the project boundaries. If an identified impact would leave a resource no longer able to convey its significance, meaning that the resource would no longer be eligible for listing in the CRHR, then the project's impact would be considered a significant adverse change. According to Public Resources Code Section 15126.4(b)(1) (CEQA Guidelines), if a project adheres to the Secretary of the Interior's standards, the project's impact "shall generally be considered mitigated below a level of significance and thus is not significant."

The project may have a significant impact on an archaeological or tribal cultural resource if construction of the project would physically damage or destroy archaeological data, human remains, or TCRs eligible for inclusion in the CRHR or identified by the lead agency. Analysis is based on information collected from record searches at the NWIC, NAHC, as well as additional archival research, and pedestrian surveys.

Note that no potential exists for any significant impacts on cultural resources to occur during project operation. All of the following impacts of the project on cultural resources would occur only during construction. Both direct and indirect effects of project implementation were considered for this analysis. Direct impacts are typically associated with construction and/or ground-disturbing activities, and have the potential to immediately alter, diminish, or destroy all or part of the character and quality of archaeological resources and/or historic architecture. Indirect impacts are typically associated with post-project implementation conditions that have the potential to alter or diminish the historical setting of a cultural resource (generally historic architecture) by introducing visual intrusions on existing historical structures that are considered undesirable.

Impacts Evaluation

Historic Resources

Impact CUL-1:	Subsurface construction activities associated with the proposed project may damage or destroy previously undiscovered historic resources.
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Seven historic-era resources have been previously recorded within a 0.50-mile radius of the project site, none of which are located within the boundaries of the project site. No historic resources were encountered during the pedestrian field survey. As mentioned above, two properties of historic age (over 45 years in age) are located within the project site boundaries, but an evaluation of both structures concluded that neither qualifies as a historic resource under CEQA.

Development resulting from the project includes up to 676 housing units and related improvements and amenities. Because no known historical resources are recorded within the project site, no impacts to known historical resources would occur during project development.

While unlikely, subsurface construction activities always have the potential to damage or destroy previously undiscovered historic and prehistoric resources. Historic resources can include wood, stone, foundations, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramic, and other refuse. Accordingly, implementation of Mitigation Measure (MM) CUL-1 would be required to reduce potential impacts to historic resources that may be discovered during project construction. With the incorporation of identified mitigation, impacts associated with historic resources would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM CUL-1 Due to the highly sensitive archaeological nature of the project site, the applicant shall prepare a Cultural Resources Management Plan that will detail how archaeological and Tribal Cultural Resources (TCRs) within the project disturbance area will be avoided or treated. The Cultural Resources Management Plan shall be approved by the City of Santa Rosa in coordination with any tribe participating in active consultation prior to issuance of grading or building permits, and shall: (i) be prepared by an archaeologist who meets the Secretary of Interior's qualification standards for archaeology; (ii) shall be adhered to during all phases of project construction; and (iii) shall be submitted to the City of Santa Rosa Planning Department and State Historic Preservation Office and any tribe participating in active consultation, as required.

The Cultural Resources Management Plan shall include at a minimum:

1. A detailed avoidance and protection plan for any resources that are eligible or potentially eligible for the California Register of Historical Resources.
2. Documentation of Coordination with Native Americans, as may be required under applicable laws and regulations, including an agreement with the any tribe participating in active consultation for the treatment and dispensation of all Tribal Cultural Resources.
3. An archaeological monitoring plan stipulating that all project-related ground disturbance shall be monitored by a qualified archaeologist and tribal representative from any tribe participating in active consultation. The plan shall

also state that in the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers shall avoid altering the materials until the project archaeologist has evaluated the situation. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement.

4. The monitoring plan should state that any resources encountered during construction activities shall be evaluated for significance in terms of CEQA criteria by a qualified archaeologist and in consultation with any tribe participating in active consultation. The treatment and disposition of TCR's shall be managed in accordance with the tribe and cultural resources management plan. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant in accordance with Section 15064.5 of the CEQA Guidelines. The archaeologist shall also perform appropriate technical analyses, prepare a comprehensive report complete with methods, results, and recommendations, with an emphasis on avoidance and preservation in place wherever possible. The report shall be submitted to the City of Santa Rosa, the Northwest Information Center, and the State Historic Preservation Office, as required.

Level of Significance After Mitigation

Less than significant impact.

Archaeological Resources

Impact CUL-2: Subsurface construction activities associated with the proposed project may damage or destroy previously undiscovered archaeological resources.

Results from the NWIC, NAHC, and a pedestrian survey conducted by FCS indicate the project site and vicinity is highly sensitive for prehistoric archaeological resources. Therefore, the project's impacts on archaeological resources would be potentially significant. Implementation of MM CUL-1, MM CUL-2 and MM CUL-3 would ensure that this potential archaeological resource impact is reduced to a less than significant level.

Level of Significance Before Mitigation

Potentially significant Impact.

Mitigation Measures

MM CUL-2 Pursuant to the Cultural Resources Management Plan required by MM CUL-1, all known archaeological sites shall be avoided or preserved in place during project construction. Avoidance or preservation in place is preferable mitigation under

CEQA, and may include modification to project plans or site “capping” with a clean layer of fill as appropriate to preserve the sites. If it is determined that a project element requiring ground disturbance cannot feasibly be located at least 50 feet from the mapped boundaries of a known archaeological site, then subsurface testing (Phase II evaluation) will be required prior to construction to determine the presence or absence of cultural materials within those areas. Any required testing shall be conducted in accordance with the Cultural Resource Management Plan, shall be carried out by a qualified archaeologist, and shall be conducted in consultation with any tribe participating in active consultation. Because subsurface testing is potentially destructive, it shall be conducted only when necessary and in moderation.

Level of Significance After Mitigation

Less than significant impact.

Burial Sites

Impact CUL-3:	Subsurface construction activities associated with the proposed project may damage or destroy previously undiscovered human burial sites.
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Subsurface construction activities associated with the project, such as trenching and grading, could potentially damage or destroy previously undiscovered human remains. Accordingly, this is a potentially significant impact. In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Sections 5097.94 and Section 5097.98 must be followed. In the event human remains are discovered, implementation of MM CUL-3 would reduce this potential impact associated with human burial sites to a less than significant level.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM CUL-3 In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Sections 5097.94 and Section 5097.98 must be followed. If during the course of project development there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the most likely descendant (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation

work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Public Resources Section 5097.98.

2. Where the following conditions occur, the landowner or his or her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the Project site in a location not subject to further subsurface disturbance:
 - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission.
 - The descendant identified fails to make a recommendation.
 - The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner.

Level of Significance After Mitigation

Less than significant impact.

Listed or Eligible Tribal Cultural Resources

Impact CUL-4:	The proposed project could cause a substantial adverse change in the significance of a Tribal Cultural Resource (TCR), defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).
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Results from the NWIC, NAHC, and a pedestrian survey conducted by FCS indicate the project site and vicinity is highly sensitive for prehistoric archaeological resources. These recorded and potential resources may be eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k). Subsequent consultation with tribal representatives from Lytton Rancheria and Federated Indians of Graton Rancheria identified potentially eligible resources as TCR's that may be adversely affected by project development. Accordingly, this would constitute a significant impact. Implementation of MM CUL-1, MM CUL-2, and MM CUL-3, which require avoidance, preservation in place, proscriptive treatment procedures, and tribal consultation in the event sensitive artifacts or human remains are found, would reduce potential impacts to potentially eligible TCRs to a less than significant level.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM CUL-1, MM CUL-2, and MM CUL-3.

Level of Significance After Mitigation

Less than significant impact.

Lead Agency Determined Tribal Cultural Resources

Impact CUL-5: The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Pursuant to AB 52, the City of Santa Rosa sent project referrals to tribal representatives from Lytton Rancheria and Graton Rancheria on June 4, 2018. On January 17, 2019, tribal representatives from the Federated Indians of Graton Rancheria responded with a request to engage in consultation with the City. The City responded to this request, and remains in active consultation with Graton Rancheria on project design and appropriate mitigation to avoid impacts to TCRs. On January 24, 2019, Lytton Rancheria also responded the City's notification letter. The tribe did not request formal consultation, but requested avoidance of all known sites, as well as archaeological and/or tribal monitoring during ground disturbance into native soils.

The City of Santa Rosa, in its capacity as lead agency, agrees with the conclusions of tribal representatives, that significant TCRs pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, may be adversely effected by the project. This would constitute a significant impact. As such, the recommendations of both Tribes have been incorporated into in MM CUL-1, MM CUL-2, and MM CUL-3, which include avoidance and treatment of TCRs as well as tribal consultation and involvement during project execution. With implementation, impacts to TCRs considered by the lead agency would be reduced to a less than significant level.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM CUL-1, MM CUL-2, and MM CUL-3.

Level of Significance After Mitigation

Less than significant impact.

3.4.5 - Cumulative Impacts

Historic Resources

The relevant geographic scope for historic resources is the City of Santa Rosa. The two residences located on-site, while of historic age, were found to be ineligible for inclusion on any local listing of historical resources or listing on the CRHR. The buildings therefore do not qualify as a historic resources under CEQA. Other projects in the City of Santa Rosa would also be required to address

and mitigate potential impacts to historic resources, as applicable. Therefore, the project, including the demolition of the two on-site residences, would not contribute to a cumulative impact.

Archeological Resources

The geographic scope of the cumulative archeological resources analysis is the project vicinity. Archeological resource impacts tend to be localized, because the integrity of any given resource depends on what occurs in the immediate vicinity around that resource, such as disruption of soils; therefore, in addition to the project site itself, the area near the project site would be the area most affected by project activities (generally within a 0.5-mile radius).

Construction activities associated with cumulative development projects in the project vicinity may have the potential to encounter undiscovered cultural resources. These cumulative projects would be required to mitigate for impacts through compliance with applicable federal and State laws governing cultural resources.

Additionally, the implementation of standard mitigation measures would ensure that undiscovered cultural resources are not adversely affected by project-related construction activities, which would prevent the destruction or degradation of potentially significant cultural resources in the project vicinity. Given the standard archeological resources mitigation measures that would apply to the cumulative projects (including the proposed project) the cumulative impact related to archaeological resources would be less than significant with mitigation.

Tribal Cultural Resources

The geographic scope of the cumulative tribal cultural resource analysis is defined as the ancestral territories of the Pomo and Wappo Native American people. Other projects in this geographic scope would be required to address and mitigate potential impacts to tribal cultural resources, as applicable. Given that the project would have a potential impact on identified TCRs, this would potentially contribute to significant cumulative project impacts. These impacts, however, would be reduced to a less-than-significant level by implementing MM CUL-1, MM CUL-2, and MM CUL-3 and would therefore not contribute to a cumulative impact to tribal Cultural resources.

Overall

Overall, given the above information, the project, in conjunction with other existing, planned, and probable future projects, would result in a less than significant cumulative impact with project related mitigation incorporated.

Level of Cumulative Significance Before Mitigation

Potentially significant impact.

Cumulative Mitigation Measures

Implement MM CUL-1, MM CUL-2, and MM CUL-3.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

3.5 - Geology and Soils

3.5.1 - Introduction

This section describes existing conditions related to geology and soils on the project site, project vicinity and in the region, as well as the relevant regulatory framework. This section also evaluates the potential impacts related to geology and soils that could result from implementation of the project. Information included in this section is based, in part, on the Soil Corrosivity Evaluation, recommendations for Corrosion Control Report and the Soil Investigation Report, and the Paleontological Records Search prepared by Consulting Paleontologist, Kenneth L. Finger, PhD, which are included in Appendix F. Other information was provided by the City of Santa Rosa General Plan 2035 and the United States Geological Survey (USGS).

No comments were received during the Environmental Impact Report (EIR) scoping period related to geology and soils.

3.5.2 - Environmental Setting

Geologic Setting

Santa Rosa Area

The Santa Rosa area is in the Coast Ranges geomorphic province of California. Much of the Coast Ranges province is composed of marine sedimentary deposits and volcanic rocks that form northwest-trending mountain ridges and valleys, running subparallel to the San Andreas Fault zone. The Northern Coast Ranges largely comprise the Franciscan Complex or Assemblage, which consists primarily of graywacke, shale, greenstone (altered sedimentary and volcanic rocks), basalt, chert (ancient silica-rich ocean deposits), and sandstone that originated as ancient sea floor sediments. Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma, and Clear Lake volcanic fields.¹

Santa Rosa is underlain by the Sonoma Volcanics, sedimentary rocks comprising the Petaluma Formation, and alluvial deposits. The Sonoma Volcanics formed during volcanic activity in the region approximately 3 to 6 million years ago and are generally found in the hilly upland areas. The Petaluma Formation is similar in age and consists of claystones, siltstones, and mudstones formed from the deposition of eroded materials in the upland areas. The alluvial deposits have been divided into the younger Huichica Formation and the Glen Ellen Formation, which consist of gravels, silt, sands, and clays found predominantly in the lower valley areas. Recent alluvial sediments deposited are divided into younger and older deposits, which fill the valleys and originated from continued erosion of the upland areas.²

Project Site

The project site is located in the eastern portion of Santa Rosa. The project site has a northwest-southeast-trending ridgeline that extends through most of its center. The elevation difference from

¹ Santa Rosa General Plan 2035 Draft Environmental Impact Report (EIR).

² *Ibid.*

the top of the ridge to the base is between 70 and 100 feet. Based on California Geological Survey (CGS) mapping, the project site is underlain by sedimentary rocks consisting of Quaternary alluvium and the Huichica and Glen Ellen formations.³

Existing Soils

Santa Rosa Area

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) has characterized the majority of native, undisturbed soils in the Santa Rosa area as clayey alluvial soils and riverwash, as well as some silty and gravelly soils and loams. The native soils in the Santa Rosa area are predominantly Wright loam, Yolo clay loam, and Zamora silty clay loam. These soils are formed on weathered alluvial deposits and sedimentary alluvium.⁴

Project Site

The project site is underlain by variable soils and conditions with discontinuous layers of fill materials and natural silty, clayey, sandy, and gravelly soils overlaying firm bedrock materials. According to the Soil Corrosivity Evaluation report, the site's soils are corrosive to moderately corrosive. Corrosive soils are a geologic hazard because they react with concrete and ferrous metals, which can cause damage to foundations and buried pipelines. According to the NRCS Web Soil Survey, the soils at the project site have low to moderate potential for water or wind erosion and have moderate to high expansion potential.⁵ Expansive soils are found on-site and contain minerals that are capable of absorbing water and increasing soil volume. Expansive soils are a geologic hazard because their increase in soil volume can exert forces on proposed structures and, thus, damage building foundations, walls, and floors. Certain areas of the project site contain a substantial volume of fill material, related to site grading and utility installation for the previously proposed 1996/1997 Three Bridges/Pacific LifeCare project.⁶ In general, areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or loose unconsolidated alluvial sediments. These soils dry out when they shrink, which can also cause structure damage. Table 3.5-1 further summarizes the soils located on-site as designated by the NRCS.

Table 3.5-1: Project Site Soil Properties Summary

Soil	Parent Material	Drainage Class
Pleasanton loam; 2–9 percent slopes	Alluvium	Well Drained
Pleasanton clay loam; 2–5 percent slopes	Alluvium derived from sedimentary rock	Well Drained
Riverwash	Sandy and gravelly alluvium	Excessively Drained
Tuscan cobbly clay loam; 9–30 percent	Alluvium derived from basic	Moderately Well Drained

³ California Geological Survey (CGS). 2012. Geologic Map of the Santa Rosa Quadrangle. Website: <http://www.quake.ca.gov/gmaps/RGM/santarosa/santarosa.html>.

⁴ United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). 2014. Web Soil Survey: Soil Map-Sonoma County, California. Website: <http://websoilsurvey.nrcs.usda.gov/app/>. Accessed October 19, 2015.

⁵ *Ibid.*

⁶ Santa Rosa General Plan 2035 Draft Environmental Impact Report (EIR).

Soil	Parent Material	Drainage Class
slopes	igneous rock	
Source: USDA NRCS 2010.		

Seismicity

The term seismicity describes the effects of seismic waves that are radiated from an earthquake fault in motion. 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. Seismicity can result in seismic-related hazards such as fault rupture, ground-shaking, and liquefaction. Faults form in rocks when stresses overcome the internal strength of the rock, and fault rupture occurs when movement on a fault breaks through to the surface and can result in damage to infrastructure and persons. Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. Strong ground shaking from an earthquake can result in damage, with buildings shifted off their foundations and underground pipes broken. Liquefaction occurs when an earthquake causes ground-shaking that results in saturated soil to lose shear strength, deform, and act like a liquid. When liquefaction occurs, it can result in ground failure that can result in damage to roads, pipelines, and buildings.

Santa Rosa Area

The USGS Working Group on California Earthquake Probabilities Study completed in 2014 estimates there is a 72 percent probability between 2014 and 2044 that an earthquake of maximum moment magnitude (M_w) 6.7 or greater will occur in the San Francisco Bay Region. Principal faults capable of producing ground shaking in the Santa Rosa area are the East Bay's Hayward Fault, including its extension, Rodgers Creek Fault, which traverse the Santa Rosa area; the San Gregorio-Hosgri Fault zone along the San Mateo Coast; the Calaveras Fault; the Concord-Green Valley Fault; the Maacama Fault, which transverses the northwest Santa Rosa area; and the San Andreas Fault located southwest of the Santa Rosa area off the Pacific Coast. In addition, many other active faults in the region are capable of causing significant ground shaking in the Santa Rosa area.⁷ The Rodgers Creek Fault had experienced historic seismic events in 1898 and 1969. The Maacama Fault zone experienced movement within the last 11,000 years and is capable of producing an M_w 7.1 earthquake. The nearest earthquake rated 7.0 M_w or greater on the moment magnitude scale was the 1906 San Francisco earthquake on the San Andreas Fault.

According to a map prepared by the Association of Bay Area Governments (ABAG)⁸ a seismic event could cause very strong to violent (Modified Mercalli Intensity Scale VII [Very Strong] to IV [Violent]) ground shaking in the Santa Rosa area.

⁷ Santa Rosa General Plan 2035 Draft Environmental Impact Report (EIR).

⁸ Sonoma County Earthquake Hazard Map. 2019. Accessed May 15. Website: <http://resilience.abag.ca.gov/earthquakes/sonoma/>.

The CGS has not investigated the Santa Rosa area for potential designation as a Seismic Hazard Zone for liquefaction. However, according to maps compiled by ABAG, there is low to moderate liquefaction potential in the Santa Rosa area.⁹

Project Site

According to the Regional Fault Map in the Santa Rosa General Plan 2035 EIR, the project site is located approximately 8 miles southeast of the Maacama Fault zone and 20 miles northeast of the San Andreas Fault zone (see Exhibit 3.5-1). The nearest active faults are the Rodgers Creek fault zone located approximately 3 miles to the southwest and the Maacama fault zone, south extension, located approximately 10 miles to the northwest of the project site.¹⁰ However, the project site itself is not located in an officially designated Alquist-Priolo Fault zone.

The intensity of strong ground shaking that will occur on-site during earthquakes depends on the distance to the earthquake epicenter, depth and magnitude, and characteristic of materials beneath the project site.¹¹ According to the ABAG Shaking Hazard Map, the project site could experience strong to violent ground shaking as determined by the Modified Mercalli Intensity Shaking Severity Level during a major seismic event.¹²

According to the Soil Investigation Report, the project site has a low risk of liquefaction, because the sandy and gravelly soils encountered in test pits and previous borings are relatively dense and/or contain sufficient amounts of clayey or silty fines.¹³

Slope Disturbance

Slope disturbance from long-term geologic cycle of uplift, mass wasting, intense precipitation or wind, and gravity can result in slope failure in the form of mudslides and rock fall. The general project vicinity is seismically active with known faults; however, the project site and vicinity do not contain active faults that would cause geologic uplifting. 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 or wind, 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. Soil creep is a long-term, gradual downhill migration of soil under the influence of gravity and is generally on the order of a fraction of an inch per year. These soils can creep away downslope sides of foundations and reduce lateral support.

⁹ Liquefaction Susceptibility Map. Accessed April 24, 2016. <http://gis.abag.ca.gov/website/Hazards/?hlyr=liqSusceptibility>

¹⁰ Reese & Associates. 2017. Soil Investigation Report. Appendix F.

¹¹ *Ibid.*

¹² United States Geological Survey (USGS). 2013. Association of Bay Area Governments (ABAG) Shaking Hazard Map. Website: <http://resilience.abag.ca.gov/earthquakes/>.

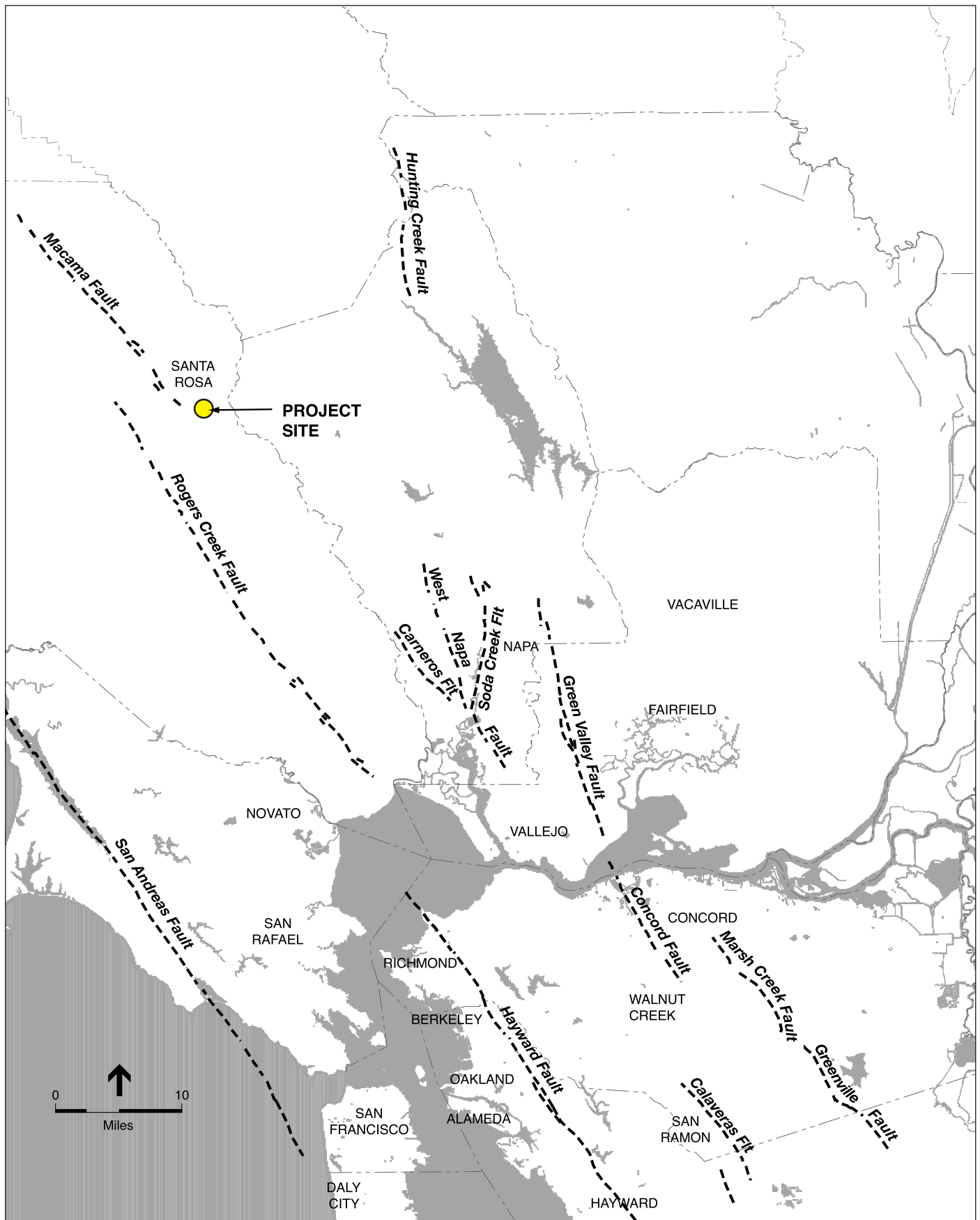
¹³ Reese & Associates. 2017. Soil Investigation Report. Appendix F.

Santa Rosa Area

Santa Rosa General Plan 2035, Figure 12-3, Geologic and Seismic Hazards, designates the area just south of the project site a “Landslide Complex” (Previous Failure). In addition, the General Plan designates the following areas around the project site as a “Landslide Complex”:

- To the north of the project site near the intersection of Calistoga Road and Montecito Boulevard.
- To the east the General Plan study area ends because it is no longer within the City limits.
- To the south in Trione-Annadel State Park.
- To the west along Bethards Road and Summerfield Road.

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Source: ESA

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Exhibit 3.5-1 Regional Fault Map

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Project Site

The project site itself is not located in a Landslide Complex area. According to the Soil Investigation Report by Reese & Associates (Appendix F), portions of the project site, particularly along and on the ridgeline, are susceptible to slope failure and landslides as well as soil creep. The project site contains several steep slopes where previous grading has been performed.

Paleontological Sensitivity

Santa Rosa Area and Project Site

On June 26, 2017, Consulting Paleontologist, Dr. Kenneth Finger, conducted a search of the University of California Museum of Paleontology (UCMP) database for the project site and a 0.5-mile search area (search results included in Appendix F). The project is located on the geologic map of McLaughlin et al.¹⁴ and is mapped as Holocene alluvium (Qf), Holocene alluvial fan deposits (Qhpf), undifferentiated Pliocene to Pleistocene fluvial deposits (QTu), and—questionably—Pliocene fluvial and lacustrine deposits (Tgp). Eight of the other nine units shown on this map are within the surrounding 0.5-mile search area (dashed line), and six of them are volcanic. Only the two on-site pre-Holocene sedimentary units (QTu and Tgp) are of paleontological concern.

The UCMP database lists six vertebrate and two plant fossil localities in the Santa Rosa quadrangle, and one vertebrate and no plant fossil localities in the Kenwood quadrangle. Three of the vertebrate localities are recorded as being in the Petaluma Formation, one locality is questionably ascribed to the Glen Ellen Formation, and the other three are unassigned, but all are in the Pliocene-Pleistocene interval. In the Santa Rosa and Kenwood quadrangles, the Pleistocene is represented by three vertebrate specimens in the UCMP collection: robust ground sloth (*Glossotherium* cf. *G. robustus*), ancient bison (*Bison antiquus*), and *Bison* sp. that indicate a terrestrial environment of deposition. Other Pleistocene localities in Sonoma County have also yielded western pond turtle (*Clemmys*), Harlan's ground sloth (*Glossotherium harlani*), and American mastodon (*Mammuth americanum*). The only Pleistocene plant locality recorded from Sonoma County is in a marine terrace along the Pacific coast.

Five Pliocene vertebrate localities are also recorded in the two quadrangles. Two localities in the Petaluma Formation yielded horse (*Equus*). The other three localities are in the Merced Formation and are represented by 49 specimens including eagle ray (*Myliobatus*), dolphins (*Delphinus*, cf. *Stenella*, and cf. *Stenodelphis sternbergi*), porpoise (*Pontoporia sternbergi*), baleen whale (*Balaemula*), northern fur seal (*Californiurus ursinus*), and extinct fur seal (cf. *Thalassoleon mexicanus*). There also are 13 Pliocene plant localities in the County, but nine are in the Sonoma Volcanics and two are in the Merced Formation. Neither unit is mapped in the vicinity of the project site, but two localities east of Petaluma (no specimens entered into database) are in an unnamed unit that could be equivalent to those at the project site.

No known paleontological resources are located within the project site boundaries. However, it should be noted that throughout the Bay Area, paleontological deposits completely obscured from

¹⁴ McLaughlin et al. 2008. Geologic and Geophysical Framework of the Santa Rosa 7.5' Quadrangle, Sonoma County, California

view have been uncovered during construction activities. In addition, deeply buried paleontological deposits have been identified during geoarchaeological investigations, including in Santa Rosa.

3.5.3 - Regulatory Framework

Federal

National Earthquake Hazards Reduction Program

The National Earthquake Hazards Reduction Program (NEHRP) was established by the U.S. Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law 95–124. In establishing the NEHRP, 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
- USGS of the Department of the Interior
- Federal Emergency Management Agency (FEMA) of the Department of Homeland Security

Implementation of NEHRP 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.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program, authorized by Section 402(p) of the federal Clean Water Act, controls water pollution by regulating point sources, such as construction sites and industrial operations that discharge pollutants into waters of the United States. A Storm Water Pollution Prevention Plan (SWPPP) is required to control discharges from a project site, including soil erosion, to protect waterways. A SWPPP describes the measures or practices to control discharges during both the construction and operational phases of the project. A SWPPP identifies project design features and structural and nonstructural Best Management Practices (BMPs) that will be used to control, prevent, remove, or reduce stormwater pollution from the site, including sediment from erosion.

Society of Vertebrate Paleontology Guidelines

The Society of Vertebrate Paleontology,¹⁵ a national scientific organization of professional vertebrate paleontologists, has established standard guidelines that outline acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation. Most practicing professional paleontologists in the nation adhere to the Society of Vertebrate Paleontology's assessment, mitigation, and monitoring requirements, as specifically spelled out in its standard guidelines.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code [PRC] § 2621 to 2630) was passed in 1972 to provide a Statewide mechanism for reducing the hazard of surface fault rupture to structures used for human occupancy. The main purpose of the Act is to prevent the siting of buildings used for human occupancy across the traces of active faults. It should be noted that the Act addresses the potential hazard of surface fault rupture and is not directed toward other earthquake hazards, such as seismically induced ground shaking or landslides.

The law requires the State Geologist to identify regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around the surface traces of active faults, and to depict these zones on topographic base maps, typically at a scale of 1 inch to 2,000 feet. Earthquake Fault Zones vary in width, although they are often 0.75-mile wide. Once published, the maps are distributed to the affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. With the exception of single-family wood-frame and steel-frame dwellings that are not part of a larger development (i.e. four units or more), local agencies are required to regulate development within the mapped zones. In general, construction within 50 feet of an active fault zone is prohibited.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (PRC §§ 2690 to 2699.6), which was passed in 1990, addresses earthquake hazards other than surface fault rupture. These hazards include strong ground shaking, earthquake-induced landslides, liquefaction, or other ground failures. Much like the Alquist-Priolo Earthquake Fault Zoning Act discussed above, these seismic hazard zones are mapped by the State Geologist to assist local government in the land use planning process. The Act states, "It is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety." The Act also states, "Cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard."

¹⁵ Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Website: www.vertpaleo.org/For-Members/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx. Accessed 2018.

California Building Code

The State of California provides minimum standards for building design through the California Building Code (California Code of Regulations [CCR], Title 24). Where no other building codes apply, Chapter 33 regulates excavation, foundations, and retaining walls. The California Building Standards Code (CBC) applies to building design and construction in the state and is based on the federal International Building Code used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The CBC has been modified for California conditions with more detailed and/or more stringent regulations.

The State earthquake protection law (California Health and Safety Code § 19100 *et seq.*) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix J regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control (Chapter 18, Appendix J). The City of Santa Rosa has adopted the 2019 CBC (Ordinance ORD-2019-022).

Local Regulations

City of Santa Rosa General Plan 2035

Santa Rosa General Plan 2035 serves as the overall guiding policy document for Santa Rosa. The following is a list of applicable General Plan 2035 policies most pertinent to the project with respect to geology and soils.

Noise and Safety Element

- **Goal NS-C: Prohibit development in high-risk geologic and seismic hazard areas to avoid exposure to seismic and geologic hazards.**
- **Policy NS-C-1:** Prior to development approval, require appropriate geologic studies to identify fault trace locations within active fault zones as designated by the provisions of the Alquist-Priolo Earthquake Fault Zoning Act. California registered geologists or engineers must conduct these studies and investigation methodologies must comply with guidelines set forth by the Alquist-Priolo Earthquake Fault Zoning Act. Compliance with the Act would insure proper setback or appropriate design to minimize the potential hazards resulting from fault movement and surface displacement.
- **Policy NS-C-2:** Require comprehensive geotechnical investigations prior to development approval, where applicable. Investigations shall include evaluation of landslide risk, liquefaction potential, settlement, seismically induced landsliding, or weak and expansive soils. Evaluation and mitigation of seismic hazards, including ground shaking, liquefaction, and seismically induced landslides, shall comply with guidelines set forth in the most recent

version of the California Division of Mines and Geology (CDMG) Special Publication 117. The level of investigation would depend on physical site location, local or regional geologic or seismic hazards, and recommendations by a consulting engineer.

- **Policy NS-C-3:** Restrict development from areas where people might be adversely affected by known natural or manmade geologic hazards. Hazards might include unstable slopes, liquefiable soils, expansive soils or weak poorly engineered fills, as determined by a California registered geologist or engineer.
- **Policy NS-C-4:** Restrict development of critical facilities—such as hospitals, fire stations, emergency management headquarters, and utility lifelines, including broadcast services, sewage treatment plants, and other places of large congregations—in areas determined as high-risk geologic hazard zones (e.g. Rodgers Creek Fault zone, liquefiable soils, areas of slope instability).
- **Policy NS-C-6:** Require appropriate and feasible seismic retrofit, as determined by a registered structural engineer, or commercial, industrial, and public buildings that are not currently retrofitted and are located within areas determined to experience strong ground shaking during an earthquake.
- **Policy NS-C-7:** Require inspection for structural integrity of water storage facilities, water conveyance facilities, electricity transmission lines, roadways, water detention facilities, levees, and other utilities after a major seismic event, especially on the San Andreas or Rodgers Creek Faults.
- **Policy NS-C-8:** Adopt mandatory, minimum erosion control measures for current properties and those under construction that exhibit high erosion potential, are in areas of steep slopes, or have experienced past erosion problems. Control measures shall reduce soil erosion from primary erosional agents, including wind, construction operations, and stormwater runoff.

City of Santa Rosa City Code

Building and Construction

Title 18, Buildings and Construction, of the Santa Rosa City Code addresses general building and construction practices and requirements. Buildings and construction are required to be in accordance with the CBC, which the City has incorporated by reference (City Code Section 18-04.015). As noted above, the CBC establishes applicable standards pertaining to seismic and soils hazards as well as grading and erosion controls. Chapter 18-16.J104.5 Appendix J of the City Code sets forth requirements for grading permits. Review and abatement of existing buildings considered seismic hazards is included in Chapter 18-48 of the City Code.

Grading, Soils, and Erosion Control Ordinances

City Code Title 19 establishes grading and soils requirements for structural foundations. Provisions include completion of a preliminary soils report prepared by a licensed civil engineer based on adequate test borings or excavations for subdivisions. This requirement may be waived if the City's Chief Building Official determines that critically expansive soil or other soils problems that could lead to structural defects do not exist. If the soils report indicates the presence of critically expansive soil or other soil problems that, if not corrected, would lead to structural damage, the City requires a complete soils investigation, prepared by a licensed civil engineer, for each lot in a subdivision. This

report is required to include recommended corrective actions to prevent structural damage to proposed structures. The report and investigation are conditions of approval for subsequent plan-level and building permits.

Title 19 also establishes erosion control requirements for subdivisions including properly timing grading and construction activities to minimize soil exposure during the rainy season, retain natural vegetation and re-vegetate denuded areas, divert runoff away from steep slopes, trap sediment in basins to allow for particles to settle out prior to discharge, and inspect erosion control measures regularly.

Hillside Development Permit

City Code Title 20 establishes the Hillside Development Permit, which provides a review process for the City to determine whether development is appropriate on hillside parcels and to ensure the project minimizes its environmental impact. The permit requires landowners to file a site topographic map to identify all areas on the proposed site with slopes of less than 10 percent, slopes between 10 and 25 percent, and slopes of more than 25 percent. In addition, the Hillside Development Permit requires a geotechnical report that identifies and proposes mitigation measures for any soil or geological problems that may affect site stability or structural integrity, integrity, which are then imposed as a condition of approval upon issuance of the hillside development permit.

3.5.4 - Impacts and Mitigation Measures

Significance Criteria

According to 2019 CEQA Guidelines Appendix G, to determine whether impacts related to geology and soils are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:
 - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)
 - ii. Strong seismic ground shaking?
 - iii. Seismic-related ground failure, including liquefaction?
 - iv. Landslides?
- b) Result in substantial soil erosion or the loss of topsoil?
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of

wastewater? (This question is not discussed in this section; instead refer to Chapter 4, Effects Found not to be Significant, for the respective analysis.)

- f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Approach to Analysis

Impacts related to geology and soils were determined by reviewing information contained in the Soil Investigation Report, the Soil Corrosivity Evaluation and Recommendations for Corrosion Control, and Paleontological Records Search prepared for the project site, which is provided in Appendix F.

Three previous geotechnical investigations were conducted for the project site and resulted in 40 test borings and 45 test pits throughout the project site. These previous investigations and other final reports were reviewed to get an understanding of previous observations and testing results. Published geologic and geotechnical information that summarized the site conditions were also reviewed. In addition, on October 11 and 12, 2016, on-site observations of surface conditions and exploration of subsurface conditions to the extent of 14 test pits was conducted. Given the nature of the project site, on-site geological conditions are not likely to have changed since these observations. These test pits were excavated to depths of 3 to 10.5 feet using a track-mounted excavator. They collected samples to test for moisture content and classification. Furthermore, an evaluation of the corrosivity of the soils at the project site was performed.

Additional evaluations of potential geologic and soil impacts of the project site were based on review of available documentation, including the City of Santa Rosa General Plan 2035; General Plan 2035 EIR; USGS “Shake Map” webpage; the USDA Natural Resources Conservation Service Web Soil Survey; and ABAG, CGS, and USGS data and publications.

Impacts to paleontological resources were determined by reviewing the Paleontological Records Search prepared for the project site by Consulting Paleontologist, Dr. Kenneth Finger. Dr. Finger performed a records search on the University of California Museum of Paleontology database for the project site.

Impact Evaluation

Earthquakes

Impact GEO-1:	The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: <ul style="list-style-type: none">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.ii) Strong seismic ground shaking.iii) Seismic-related ground failure, including liquefaction.iv) Landslides.
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The project site is not located within an officially designated Alquist-Priolo earthquake fault zone and there is no other information that would indicate that the project site would be located on a known

fault.¹⁶ The potential for ground rupture is considered low at the project site. As a result, the fault-rupture impact would be less than significant.

Given the generally high seismicity of the region, the project site could experience strong to violent ground shaking due to an earthquake occurring along the Hayward-Rodgers Creek Fault, Bennet Valley Fault, or other regional faults.¹⁷ The intensity of ground shaking would vary with the distance and magnitude of the earthquake causing the ground shaking. According to the Modified Mercalli Intensity Shaking Severity Level, the project site would experience “Very Strong” to “Violent” shaking during an earthquake along these faults. The project site is located approximately 3 miles northwest from the Rodgers Creek fault zone. The project site is located in CBC Seismic Design Category D or E, as is Santa Rosa and much of the rest of the San Francisco Bay Area. As such, development is required to meet the most stringent CBC standards for Seismic Design Category D or E, as applicable, in effect at the time of project design, as well as the M_w 7.1 “design earthquake” (along the Hayward-Rodgers Creek Fault) standard.¹⁸ General Plan 2035 Policies NS-C-1 and NS-C-2 require geologic studies and geotechnical investigations prior to development to identify fault trace locations, landslide risk, liquefaction potential, seismically induced hazards, and/or weak expansive soils. Therefore, compliance with applicable regulations would ensure that impacts associated with strong seismic shaking are minimized to the maximum extent practicable and would be less than significant.

As indicated in the Soil Investigation Report prepared for the project site (see Appendix F), seismic-related ground failure in the form of liquefaction risk is low, because the project site soils tested contained relatively dense materials such as clayey and silty fines. Therefore, impacts related to seismic-related ground failure, such as liquefaction, would be less than significant.

The project site is not located in an earthquake-induced landslide zone.¹⁹ General Plan 2035 Policy NS-C-3 requires development restrictions in unstable areas, including any unstable slopes along creeks. The project would be mandated to comply with Zoning Code 20-30.040, which requires a 50-foot building setback from the top of a bank to ensure ground stability. This setback, along with the implementation of recommendations set forth in the design level geologic study as required by General Plan 2035 Policy NS-C-1, NS-C-2, and the Hillside Development Permit would ensure that impacts related to landslides would be less than significant. Therefore, overall compliance with applicable regulations would ensure that impacts related to fault rupture, ground shaking, liquefaction, and landslides would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

¹⁶ Department of Conservation. Website: <http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps>. Accessed September 27, 2017.

¹⁷ Santa Rosa General Plan 2035 Draft Environmental Impact Report (EIR).

¹⁸ Roseland Area Draft Annexation Draft EIR. Accessed July 31, 2017.

¹⁹ Association of Bay Area Governments (ABAG). 2019. Resilience program. Website: <http://gis.abag.ca.gov/website/Hazards/?hlyr=cgsLndslldZones>.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Soil Erosion or Topsoil Loss

Impact GEO-2:	The proposed project would not result in substantial soil erosion or the loss of topsoil.
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Soil erosion occurs when soil materials are transported or washed away to another area by wind or water. Development of the project site would involve the removal of vegetation that currently helps stabilize soils on the sloped terrain. Exposure of these soils during construction activities and grading could lead to increased surface runoff and erosion. In order to reduce and prevent erosion, City Code Title 18 mandates compliance with both Appendix J—Section 110 of the CBC and City Code 19-64, which require implementation of erosion control measures. For example, City Code 19-64 requires that stormwater runoff from construction sites is directed toward an inlet with a sediment or filtration interceptor prior to entering the storm drain system. In addition, General Plan 2035 Policy NS-C-8 requires erosion control measures to be implemented to reduce soil erosion from runoff, construction activities, wind, and other causes. Furthermore, the City’s Storm Water Management Plan (SWMP) requires the preparation and implementation of an approved SWPPP. Implementation of an approved SWPPP would reduce the potential for erosion by implementing project design features and BMPs during and after construction to control, prevent, reduce, or remove stormwater pollution from the project site. For example, straw mulch is used as a BMP to stabilize soil on slopes that are prone to erosion and as part of seeding strategies to enhance revegetation. Once the project is developed, the potential for soil erosion would be lower than during construction, due to the presence of new structures, concrete, asphalt, and landscaping. Therefore, overall compliance with applicable regulations and implementation of the required project-specific SWPPP would ensure that impacts related to soil erosion or the loss of topsoil would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Unstable Geologic Location

Impact GEO-3: **The proposed project may be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the proposed project, and potentially result in on- or off-site landslide, latera spreading, subsidence, liquefaction or collapse.**

As described above, liquefaction occurs when soils are saturated with water to a point where during earthquake shaking the soil behaves like a liquid. Lateral spreading occurs when an underlying soil mass becomes saturated and horizontally displaces soils down a slope. The Soil Investigation Report (see Appendix F) found that the sandy and gravelly soils encountered in the test pits and previous test borings are relatively dense and contain a sufficient amount of clayey or silty fines. The report determined that given these soil properties, the risk for liquefaction and lateral spreading on the project site is low. In addition, foundations for the proposed structures would be required to account for soil creep, unless site grading is performed to remove and replace soils that are prone to liquefaction. The impact related to liquefaction and lateral spreading would be less than significant.

The Soil Investigation Report found that existing areas on-site could undergo significant and/or differential soil settlements under the anticipated loading conditions created by the project development. These areas are specified and shown in the Test Pit Location Plan and Geotechnical Planning Map included in Appendix F. The project would need to remove unsuitable soils and replace them with compacted, engineered fill in compliance with the California Building Code. The Soil Investigation Report recommends that over excavation to remove existing fill should occur within proposed building areas and extend to at least 5 feet beyond perimeters, and to at least 3 feet beyond proposed building envelopes. Deeper over excavation could also be needed to remove deeper existing fills. Furthermore, the project would be required to incorporate appropriate setbacks from nearby creeks to prevent soil erosion and bank instability. Properly removing existing unstable soils would ensure that the project would not be susceptible to subsidence or collapse. In order to ensure that the over excavation and removal of fill are implemented as appropriate, Mitigation Measure (MM) GEO-1, described below, would be required to ensure a design-level geotechnical report is prepared and its recommendations implemented as part of construction of the project. Implementation of MM GEO-1 would reduce impacts related to subsidence or collapse to the maximum extent practicable, and the impact related to subsidence or collapse would be reduced to a less-than-significant level.

The Soil Corrosivity Evaluation and Recommendations for Corrosion Control Report (see Appendix F) for the project site concluded that the soils are corrosive to moderately corrosive. No special requirement for sulfate resistant concrete would need to be used at the project site, because there are low levels of water-soluble sulfate found in these soils. According to this report, special requirements for corrosion control are required for buried metallic piping and utilities. The report recommends that pressure piping systems should be provided with appropriate coating systems and cathodic protection. In addition, underground pipelines should be electrically isolated from above-grade structures in order to avoid potential galvanic corrosion problems. Further information and recommendations can be found in the Soil Corrosivity Evaluation and Recommendations for Corrosion Control included in Appendix F. Implementation of MM GEO-1 would also ensure that impacts related to soil corrosivity would be less than significant.

Landslides can pose a serious risk to human life and property while also destroying roadways and emergency routes. Landslide hazards are designated on Figure 12-3 of the General Plan 2035, which shows areas where landslides have occurred in the past and areas of unstable rock that are slopes greater than 15 percent. The project site is located adjacent to the north of an area previous failure as designated in General Plan 2035 Figure 12-3. Although the project site is located near the location of a previous landslide, the project would not be developed on areas with a high risk of landslide as identified in the project-site-specific geotechnical investigation and in compliance with General Plan 2035 Policy NS-C-4. Therefore, impacts related to landslides would be less than significant.

The project would be consistent with General Plan 2035 Policies NS-C-1 and 2, given that geotechnical investigations were undertaken prior to development approval. The geotechnical investigations evaluated the project site risk from landslides, liquefaction, settlement, seismically induced landsliding, and weak and expansive soils. In addition, the project is consistent with General Plan 2035 Policy NS-C-4 because the geotechnical investigations identify any areas of high risk from landslides, liquefaction, settlement, seismically induced landsliding and weak and expansive soils, and prevent development in these areas without proper mitigation. In summary, with the implementation of MM GEO-1, potential impacts related to unstable geologic units or soils would be reduced to a less-than-significant level.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM GEO-1 Prior to the issuance of building permits for each structure, the applicant shall submit a design-level geotechnical investigation to the City of Santa Rosa for review and approval. The investigation shall be prepared by a qualified engineer and identify grading and building practices necessary to achieve compliance with the latest adopted edition of the California Building Standards Code geologic, soils, and seismic requirements. The measures identified in the approved report shall be incorporated into the project design plans.

Level of Significance After Mitigation

Less than significant impact.

Expansive Soil

Impact GEO-4: **The proposed project may be located on expansive soil, per criteria in California Building Standards Code, creating substantial risks to life or property.**

According to the Soil Investigation of the project site (see Appendix F), expansive soils and soil creep are found throughout the project site. General Plan 2035 Policy NS-C-2 requires a comprehensive geotechnical report to identify and evaluate the project site soils. As recommended in the geotechnical report for the project (see Appendix F), during grading the expansive soils would need to be over excavated and replaced with engineered fill to allow for development. Alternatively, foundations could be extended through the weak and expansive soils to get support from the underlying firm bedrock. The implementation of these geotechnical report recommendations as

required by MM GEO-1 would reduce risks to life and property and, thus, impacts related to expansive soils would be reduced to a less-than-significant level.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement Mitigation Measure GEO-1.

Level of Significance After Mitigation

Less than significant impact.

Paleontological Resources

Impact GEO-5: **The proposed project may directly or indirectly destroy a previously unknown unique paleontological resource or site or unique geologic feature.**

According to the report prepared by Consulting Paleontologist, Kenneth Finger, PhD, (Appendix E), about 60 percent of the project site is currently mapped as unnamed Pliocene-Pleistocene deposits of low paleontological potential, and these or adjacent deposits of similar age probably underlie the Holocene deposits mapped on the other 40 percent of the project site surface. Occurrences of terrestrial fossils tend to be unpredictable and spottily distributed, so most Pleistocene alluvial and lacustrine sediments have a low potential but high sensitivity for significant paleontological resources. Furthermore, although the potential is low, the recovery of 12 Pleistocene vertebrates from 10 localities in unnamed units in Sonoma County indicates that project-related excavations could impact significant paleontological resources.

Although not anticipated, sub-surface construction activities associated with the project, such as grading and trenching, could result in a potentially significant impact to paleontological resources, if encountered. Paleontological resources may include but are not limited to fossils from mammoths, saber-toothed cats, rodents, reptiles, and birds. Accordingly, implementation of MM GEO-2 would be required to ensure a qualified Paleontological Monitor, as defined by the Society of Vertebrate Paleontology, is present during ground disturbance activities. MM GEO-2 would reduce potential impacts to paleontological resources that may be discovered during project construction. With the incorporation of MM GEO-2, impacts associated with paleontological resources would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM GEO-2 A professional Paleontologist shall be present during the initial phase of ground disturbance to check for the inadvertent exposure of fossils or other resources of paleontological value. This may be followed by regular periodic or “spot-check” paleontological monitoring during ground disturbance as needed, but full-time monitoring is not required at this time. In the event that fossils or fossil-bearing

deposits are discovered during construction activities, excavations within a 100-foot radius of the find shall be temporarily halted or diverted. The applicant's construction contractor shall notify a qualified Paleontologist to examine the discovery. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The Paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The Paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the applicant determines that avoidance is not feasible, the Paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The plan shall be submitted to the City of Santa Rosa for review and approval prior to implementation, and the applicant shall adhere to the recommendations in the plan.

Level of Significance After Mitigation

Less than significant impact.

3.5.5 - Cumulative Impacts

The geographic scope of the cumulative geology and soils analysis is the project vicinity. Adverse effects associated with many geology and soils tend to be localized; therefore, the area near the project site would be the area most affected by cumulative project activities (generally within a 0.25-mile radius).

The project has the potential to experience strong to violent ground shaking from earthquakes on nearby faults. The project would be required to comply with the latest adopted edition of the California Building Code's seismic requirements. The adopted CBC places the project site in Seismic Design Category D or E, which has the most stringent seismic safety requirements. The other projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, would be exposed to the same ground shaking hazard and likewise would be subject to the same requirements. As such, the project, in conjunction with other projects, would not have a cumulatively significant impact associated with ground shaking hazards.

Development activities that remove vegetation and disturb on-site soils could lead to an increased potential for erosion. The project would be required to comply with Santa Rosa City Code Title 18, which requires implementation of erosion control measures, and with the City's SWMP, which requires preparation of a SWPPP that includes a description of BMPs to control erosion during construction activities. Compliance with these City regulations would ensure that project earthwork activities do not result in substantial erosion off-site. The other cumulative projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, , as well as other relevant cumulative projects as required by CEQA, would be subject to the same requirements. As such, the project, in conjunction with other projects, would not have a cumulatively significant impact associated with soil erosion.

Other potential soil conditions associated with the project site, such as differential settlement, expansive soils, and soil creep, are specific to the project site and generally do not contribute to a cumulative effect. Some or all of the other projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA, may have similar conditions, but they also would not contribute to a general geologic or soil cumulative effect. In any case, the project and these other cumulative projects would be required to comply with applicable City requirements and standards and applicable provisions adopted uniform building codes that would reduce the impacts of these soil conditions.

No known significant impacts to paleontological resources have occurred in the vicinity of the project as a result of other cumulative projects. Although there is the possibility that previously undiscovered resources could be encountered by earthwork activities on the project site, as well as associated with work on other nearby sites, the implementation of standard construction mitigation measures would ensure that undiscovered resources are not adversely affected by project-related construction activities, which would prevent the destruction or degradation of potentially significant paleontological resources in the project vicinity. Other cumulative projects would be required to implement similar mitigation for their construction activities, and there is no significant cumulative impact related to paleontological resources.

Given the above information, the project, in conjunction with other existing, planned, and probable future projects, would result in a less than significant cumulative impact related to geology and soils.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

3.6 - Greenhouse Gas Emissions and Energy

3.6.1 - Introduction

This section describes existing greenhouse gas (GHG) emissions conditions globally and locally, the existing energy setting, and the relevant regulatory framework. Potential impacts related to GHG emissions and energy consumption that could result from implementation on the project are also evaluated. Information in this section is based, in part, on project-specific GHG emissions modeling results utilizing California Emissions Estimator Model (CalEEMod) versions 2016.3.1 and 2016.3.2 (complete modeling output in Appendix C). During the Environmental Impact Report (EIR) scoping period, comments related to GHG emissions and energy were received related to the desire for project components and configuration to minimize project-related GHG emissions and a concern regarding whether the City would meet its GHG emissions reduction commitments.

3.6.2 - Environmental Setting

Greenhouse Effect, Global Warming, and Climate Change

Most of the energy that affects the Earth's climate comes from the sun. Some solar radiation is absorbed by the Earth's surface, and a smaller portion of this radiation is reflected by the atmosphere back toward space. As the Earth absorbs high-frequency solar radiation, its surface gains heat and then re-radiates lower frequency infrared radiation back into the atmosphere.¹

Most solar radiation passes through gases in the atmosphere classified as GHGs; however, infrared radiation is selectively absorbed by GHGs. GHGs in the atmosphere play a critical role in maintaining the balance between the Earth's absorbed and radiated energy, the Earth's radiation budget,² by trapping some of the infrared radiation emitted from the Earth's surface that otherwise would have escaped to space (Figure 3.6-1). Radiative forcing is the difference between the incoming energy and outgoing energy.³ Specifically, GHGs affect the radiative forcing of the atmosphere,⁴ which in turn affects the Earth's average surface temperature. This phenomenon, the *greenhouse effect*, keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows successful habitation by humans and other forms of life.

Combustion of fossil fuels and deforestation release carbon into the atmosphere that historically has been stored underground in sediments or in surface vegetation, thus exchanging carbon from the geosphere and biosphere to the atmosphere in the carbon cycle. With the accelerated increase in fossil fuel combustion and deforestation since the Industrial Revolution of the 19th Century, concentrations of GHGs in the atmosphere have increased exponentially. Such emissions of GHGs in excess of natural ambient concentrations contribute to the enhancement of the natural greenhouse effect. This enhanced greenhouse effect has contributed to *global warming*, an increased rate of

¹ Frequencies at which bodies emit radiation are proportional to temperature. The Earth has a much lower temperature than the sun and emits radiation at a lower frequency (longer wavelength) than the high-frequency (short-wavelength) solar radiation emitted by the sun.

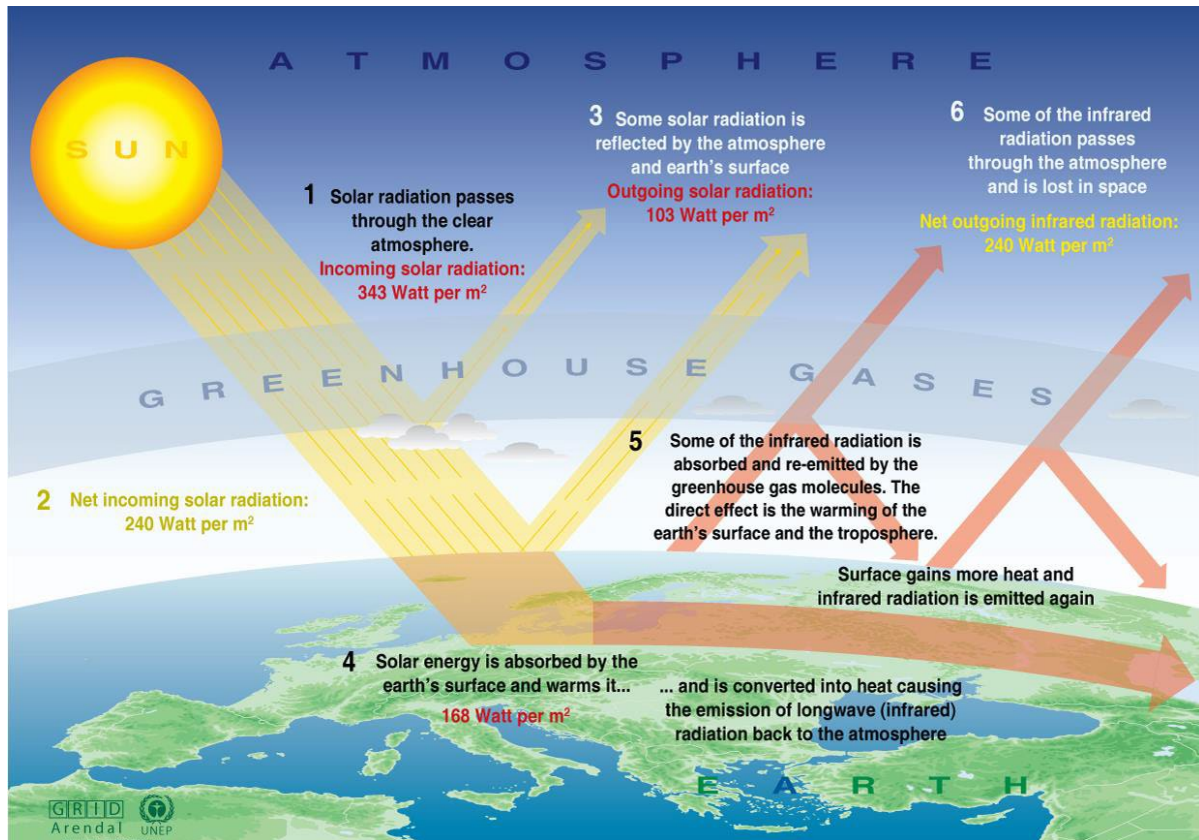
² This includes all gains of incoming energy and all losses of outgoing energy; the planet is always striving to be in equilibrium.

³ Positive forcing tends to warm the surface while negative forcing tends to cool it.

⁴ This is the change in net irradiance at the tropopause after allowing stratospheric temperatures to readjust to radiative equilibrium, but with surface and tropospheric temperatures and state held fixed at the unperturbed values.

warming of the Earth's average surface temperature.⁵ Specifically, increases in GHGs lead to increased absorption of infrared radiation by the Earth's atmosphere and warm the lower atmosphere further, thereby increasing temperatures and evaporation rates near the surface.

Variations in natural phenomena such as volcanoes and solar activity produced most of the global temperature increase that occurred during preindustrial times; more recently, however, increasing atmospheric GHG concentrations resulting from human activity have been responsible for most of the observed global temperature increase.⁶



Source: UNEP/GRID-Arendal, 2005⁷

Figure 3.6-1: The Greenhouse Effect

Global warming affects global atmospheric circulation and temperatures; oceanic circulation and temperatures; wind and weather patterns; average sea level; ocean acidification; chemical reaction rates; precipitation rates, timing, and form; snowmelt timing and runoff flow; water supply; wildfire risks; and other phenomena, in a manner commonly referred to as *climate change*. Climate change is a change in the average weather of the Earth that is measured by alterations in wind patterns,

⁵ This condition results when the Earth has to work harder to maintain its radiation budget, because when more GHGs are present in the atmosphere, the Earth must force emissions of additional infrared radiation out into the atmosphere.

⁶ These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

⁷ Philippe Rekacewicz. United Nations Environmental Program/GRID-Arendal (UNEP/GRID-Arendal). 2005. GRID-Arendal Annual Report. Website: <https://www.grida.no/resources/6467>. Accessed April 26, 2019.

storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

Temperature Predictions by the Intergovernmental Panel on Climate Change

The United Nations Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios.⁸ The report also concluded that “[w]arming of the climate system is unequivocal,” and that “[m]ost of the observed increase in global average temperatures since the mid-20th Century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.” Warming of the climate system is now considered to be unequivocal,⁹ with the global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. The IPCC predicts increases in global average temperature of between 2° and 11°F over the next 100 years, depending on the scenario.¹⁰

Greenhouse Gases and Global Emission Sources

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Prominent GHGs that naturally occur in the Earth’s atmosphere are water vapor, carbon dioxide (CO₂), methane (CH₄), oxides of nitrogen (NO_x), and ozone. Anthropogenic (human-caused) GHG emissions include releases of these GHGs plus release of human-made gases with high global warming potential (GWP) (ozone-depleting substances such as chlorofluorocarbons [CFCs]¹¹ and aerosols, hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride (SF₆). The GHGs listed by the IPCC (CO₂), methane, nitrous oxide, HFCs, PFCs, and sulfur hexafluoride) are discussed below, in order of abundance in the atmosphere. Water vapor, despite being the most abundant GHG, is not discussed below because natural concentrations and fluctuations far outweigh anthropogenic influences, making it impossible to predict. Ozone is not included because it does not directly affect radiative forcing. Ozone-depleting substances, which include chlorofluorocarbons,

⁸ Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Website: www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html. Accessed June 15, 2017.

⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ CFCs destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited CFCs production in 1987.

halons, carbon tetrachloride, methyl chloroform, and hydrochlorofluorocarbons, are not included because they have been primarily replaced by HFCs and PFCs.

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 (CO₂).

Individual GHG compounds have varying potential for contributing to global warming. For example, methane is 25 times as potent as CO₂, while sulfur hexafluoride is 22,200 times more potent than CO₂ on a molecule-per-molecule basis. To simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The most commonly accepted method for comparing GHG emissions is the GWP methodology defined in the IPCC reference documents.¹² The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalents (CO₂e), which compares the gas in question to that of the same mass of CO₂ (by definition, CO₂ has a GWP of 1). The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. Thus, to describe how much global warming a given type and amount of GHG may cause, the CO₂e is used. A CO₂e is the mass emissions of an individual GHG multiplied by its global warming potential. As such, a high GWP represents high absorption of infrared radiation and a long atmospheric lifetime compared to CO₂. One must also select a time horizon to convert GHG emissions to equivalent CO₂ emissions to account for chemical reactivity and lifetime differences among various GHG species. The standard time horizon for climate change analysis is 100 years. Generally, GHG emissions are quantified in terms of metric tons (MT) of CO₂e (MT CO₂e) emitted per year.

The atmospheric residence time of a gas is equal to the total atmospheric abundance of the gas divided by its rate of removal.¹³ The atmospheric residence time of a gas is, in effect, a half-life measurement of the length of time a gas is expected to persist in the atmosphere when accounting for removal mechanisms such as chemical transformation and deposition.

Table 3.6-1 lists the GWP of each GHG and its lifetime. Units commonly used to describe the concentration of GHGs in the atmosphere are parts per million (ppm), parts per billion (ppb), and parts per trillion (ppt), referring to the number of molecules of the GHG in a sampling of 1 million, 1 billion, or 1 trillion molecules of air. Collectively, HFCs, PFCs, and sulfur hexafluoride are referred to as high-GWP gases. CO₂ is by far the largest component of worldwide CO₂e emissions, followed by methane, nitrous oxide, and high-GWP gases, in order of decreasing contribution to CO₂e.

The primary human processes that release GHGs include the burning of fossil fuels for transportation, heating, and electricity generation; agricultural practices that release methane, such as livestock grazing and crop residue decomposition; and industrial processes that release smaller amounts of high-GWP gases. Deforestation and land cover conversion have also been identified as contributing to global warming by reducing the Earth's capacity to remove CO₂ from the air and

¹² Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Website: www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html. Accessed June 15, 2017.

¹³ Seinfeld, J.H. and Pandis, S.N. 2006. Atmospheric Chemistry and Physics: From Air Pollution to Climate Change, 2nd Edition. New York. John Wiley & Sons.

altering the Earth's albedo or surface reflectance, thus allowing more solar radiation to be absorbed. Specifically, CO₂ emissions associated with fossil fuel combustion are the primary contributors to human-induced climate change. CO₂, methane, and nitrous oxide emissions associated with human activities are the next largest contributors to climate change.

GHGs of California concern are defined by California Assembly Bill (AB) 32 (see the Regulatory Environment subsection below for a description) and include CO₂, CH₄, NO_x, HFCs, PFCs, and SF₆. A seventh GHG, nitrogen trifluoride (NF₃), was also added under the California Health and Safety Code section 38505(g)(7) as a GHG of concern. These GHGs are described in terms of their physical description and properties, global warming potential, atmospheric residence lifetime, sources, and atmospheric concentration in 2005 in Table 3.6-1.

Table 3.6-1: Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO ₂)	Odorless, colorless, natural gas.	1	50-200	burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes
Methane (CH ₄)	Flammable gas and is the main component of natural gas.	25	12	geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N ₂ O)	Nitrous oxide (laughing gas) is a colorless GHG.	298	114	microbial processes in soil and water; fuel combustion; industrial processes
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms.	3,800-8,100	45-640	refrigerants aerosol propellants; cleaning solvents.

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140 to 11,700	1-50,000	automobile air conditioners; refrigerants
Per-fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500 to 9,200	10,000-50,000	primary aluminum production; semiconductor manufacturing
Sulfur hexafluoride (SF ₆)	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas
Nitrogen trifluoride (NF ₃)	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	electronics manufacture for semiconductors and liquid crystal displays.

Sources:

Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, Website: www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html. Accessed June 5, 2018.

Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Core Writing Team, Pachauri, R.K. and Reisinger, A. [eds.]). IPCC, Geneva, Switzerland. Website: www.ipcc.ch/publications_and_data/ar4/syr/en/contents.html. Accessed June 5, 2018.

The State has begun the process of addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the Governor on September 14, 2014 required the California Air Resources Board (ARB) to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. The ARB released the Proposed Short-Lived Climate Pollutant Reduction Strategy in April 2016. ARB has completed an emission inventory of these pollutants, identified research needs, identified existing and potential new control measures that offer co-benefits, and coordinated with other state agencies and districts to develop measures.

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. Fluorinated gases and methane are described in Table 3.6-1 and are already included

in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, the ARB will include it in its comprehensive strategy.¹⁴

Black carbon is a component of fine particulate matter. Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other GHGs can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

Global warming potentials for black carbon were not defined by the IPCC in its Fourth Assessment Report. The ARB has identified a global warming potential of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon from the IPCC Fifth Assessment. Sources of black carbon are already regulated by the ARB, and air district criteria pollutant and toxic regulations that control fine particulate emissions from diesel engines and other combustion sources.¹⁵ Additional controls on the sources of black carbon specifically for their GHG impacts beyond those required for toxic and fine particulates are not likely to be needed.

Ozone is another short-lived climate pollutant that will be part of the strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not directly emitted, so its precursor emissions, volatile organic compounds (VOC) and oxides of nitrogen (NO_x) on a regional scale and CH₄ on a hemispheric scale will be subject of the strategy.¹⁶

Water vapor is also considered a GHG. Water vapor is an important component of our climate system and is not regulated. Increasing water vapor leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other GHGs, such that the warming brought about by increased carbon dioxide allows more water vapor to enter the atmosphere.¹⁷

Global Climate Change Issue

Climate change is a global problem because GHGs are global pollutants, unlike criteria air pollutants and hazardous air pollutants (also called toxic air contaminants), which are pollutants of regional and local concern. Pollutants with localized air quality effects have relatively short atmospheric lifetimes, approximately 1 day; by contrast, GHGs have long atmospheric lifetimes, several years to several

¹⁴ California Air Resources Board (ARB). 2015. Short-Lived Climate Pollutant Reduction Strategy, Concept Paper. May. Website: http://www.arb.ca.gov/cc/shortlived/concept_paper.pdf. Accessed June 3, 2017.

¹⁵ *Ibid.*

¹⁶ *Ibid.*

¹⁷ National Aeronautics and Space Administration (NASA). 2015. NASA—Global Climate Change, Vital Signs of a Planet. Website: <http://climate.nasa.gov/causes/>. Accessed August 21, 2016.

thousand years. GHGs persist in the atmosphere for a long enough time to be dispersed around the globe.

Although the exact lifetime of any particular GHG molecule depends on multiple variables and cannot be pinpointed, more CO₂ is currently emitted into the atmosphere than is sequestered. CO₂ sinks, or reservoirs, include vegetation and the ocean, which absorb CO₂ through photosynthesis and dissolution, respectively. These are two of the most common processes of CO₂ sequestration. Of the total annual human-caused CO₂ emissions, approximately 54 percent is sequestered through ocean uptake, Northern Hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO₂ emissions is stored in the atmosphere.¹⁸

Similarly, effects of GHGs are borne globally, as opposed to the localized air quality effects of criteria air pollutants and hazardous air pollutants. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known and cannot be quantified, and no single project would be expected to measurably contribute to a noticeable incremental change in the global average temperature, or to global or local climates or microclimate.

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. A cumulative discussion and analysis of project impacts on global climate change is presented in this Draft EIR because, although it is unlikely that a single project will contribute significantly to climate change, cumulative emissions from many projects affect global GHG concentrations and the climate system.

Global climate change has the potential to result in sea level rise (resulting in flooding of low-lying areas), to affect rainfall and snowfall (leading to changes in water supply), to affect temperatures and habitats (affecting biological resources and public health), and to result in many other adverse environmental consequences.

Although the international, national, state, and regional communities are beginning to address GHGs and the potential effects of climate change, worldwide GHG emissions will likely continue to rise over the next decades.

Climate and Topography

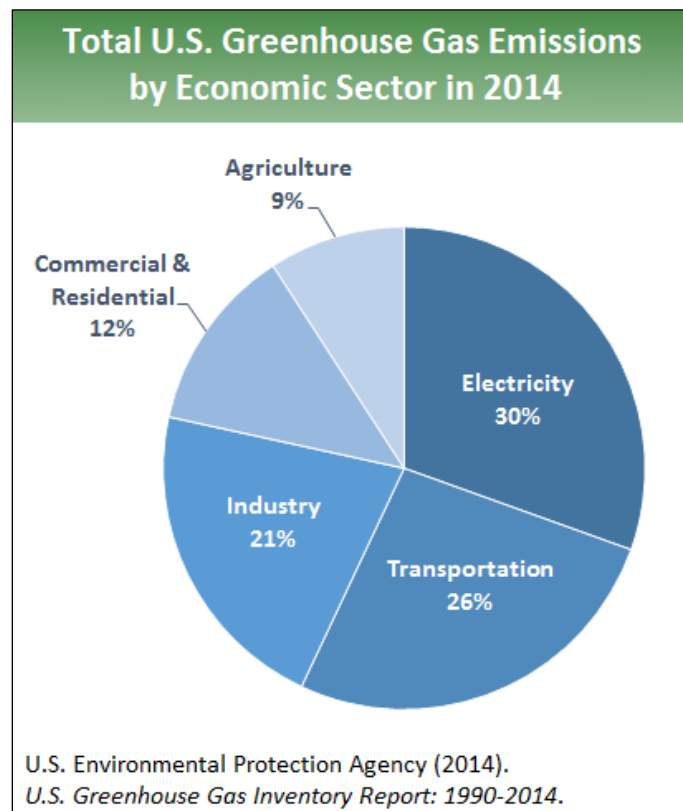
Climate is the accumulation of daily and seasonal weather events over a long period of time, whereas weather is defined as the condition of the atmosphere at any particular time and place. For a detailed discussion of existing regional and project site climate and topography, see Section 3.2, Air Quality.

¹⁸ Seinfeld, J.H. and S.N. Pandis 2006. *Atmospheric Chemistry and Physics from Air Pollution to Climate Change*, 2nd Edition. New York. John Wiley & Sons.

Existing GHG Emissions

United States GHG Inventory

Total United States GHG emissions were approximately 1 percent higher in 2014 than in 2013.¹⁹ Figure 3.6-2 presents 2014 United States GHG emissions by economic sector. In the United States, the electricity sector is the largest emitter at 30 percent of GHG emissions, followed by transportation at 26 percent of GHG emissions. Total United States GHG emissions increased by 7.4 percent from 1990 to 2014 (from 6,233.2 million metric tons [MMT] CO₂e in 1990 to 6,870.5 MMT CO₂e in 2014). Since 1990, U.S. emissions have increased at an average annual rate of 0.3 percent. In 2014, cool winter conditions led to an increase in CO₂e emissions associated with fuels used for heating in the residential and commercial sectors. Transportation emissions also increased because of a small increase in vehicle miles traveled. There was also an increase in industrial production across multiple sectors, resulting in slight increases in industrial-sector emissions.²⁰



Note: Emissions shown do not include carbon sinks such as change in land uses and forestry.

Source: United States Environmental Protection Agency (EPA) 2016²¹

Figure 3.6-2: 2014 U.S. Greenhouse Gas Emissions by Gas

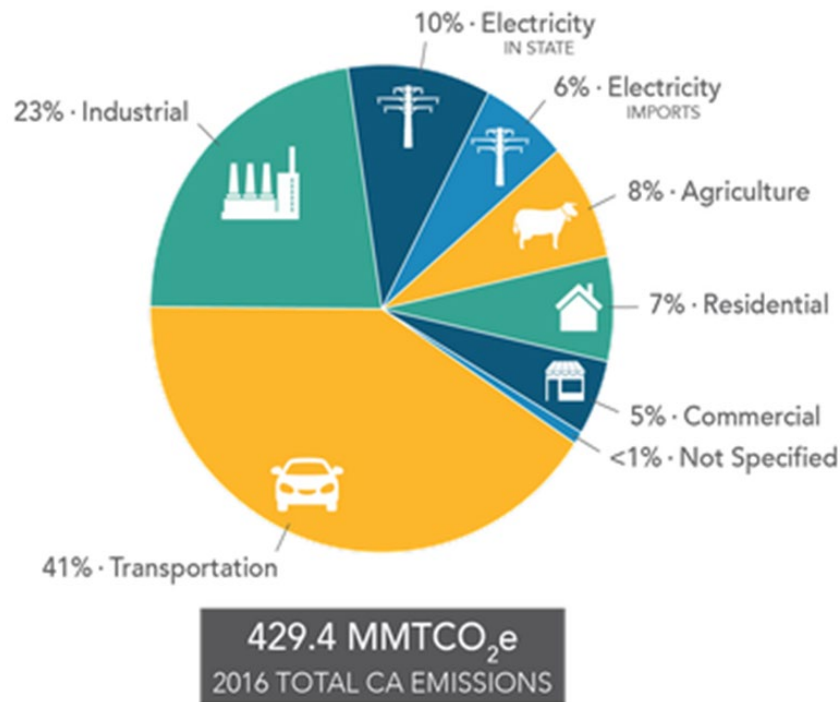
¹⁹ United States Environmental Protection Agency (EPA). 2016. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014. EPA 430-R-16-002. Website: <https://www.epa.gov/sites/production/files/2017-04/documents/us-ghg-inventory-2016-main-text.pdf>. Accessed June 2, 2018.

²⁰ *Ibid.*

²¹ *Ibid.*

California GHG Inventory

As the second largest emitter of GHGs in the United States and the 12th to 16th largest GHG emitter in the world, California contributes a large quantity of GHGs to the atmosphere.²² Emissions of CO₂ are byproducts of fossil-fuel combustion and are attributable in large part to human activities associated with transportation, industry/manufacturing, electricity and natural gas consumption, and agriculture. In California, the transportation sector is the largest emitter of GHGs, followed by industry/manufacturing at 23 percent of GHG emissions (Figure 3.6-3).²³



Sources: ARB 2018

Figure 3.6-3: 2014 California Greenhouse Gas Emissions by Sector

Bay Area Air Quality Management District GHG Inventory

The Bay Area Air Quality Management District (BAAQMD) published a GHG inventory for the San Francisco Bay Area (Bay Area), which provides an estimate of GHG emissions in the base year 2011 for all counties located in the jurisdiction of BAAQMD: Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Napa, and the southern portions of Solano and Sonoma counties.^{24,25} This

²² California Climate Change Center (CCCC). 2006. Our Changing Climate, Assessing the Risks to California: A Summary Report from the California Climate Change Center. July 2006. CEC-500-2006-077. Website: www.scc.ca.gov/webmaster/ftp/pdf/climate_change/assessing_risks.pdf. Accessed June 2, 2018.

²³ California Air Resources Board (ARB). 2017. California Greenhouse Inventory-Graphs. Website: <https://www.arb.ca.gov/cc/inventory/data/graph/graph.htm>. Accessed June 5, 2018.

²⁴ This includes Santa Rosa, Petaluma, and Sonoma within Sonoma County.

²⁵ Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011. January. Website: http://www.baaqmd.gov/~media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf. Accessed June 5, 2018.

GHG inventory is based on the standards for criteria pollutant inventories and is intended to support BAAQMD's climate protection activities.

Table 3.6-2 shows the 2011 breakdown of emissions by end-use sector for each county within BAAQMD's jurisdiction. The estimated GHG emissions are presented in CO₂e, which weights each GHG by its GWP. The GWPs used in the BAAQMD inventory are from the Second Assessment Report of the IPCC.

In 2011, GHG emissions from the portion of Sonoma County within in the BAAQMD's jurisdiction accounted for approximately four percent of the Bay Area's total GHG emissions.²⁶ Transportation is the largest GHG emissions sector in the Bay Area, followed by industrial/commercial, electricity generation and cogeneration, and residential fuel usage. In Santa Rosa, transportation is the largest GHG emissions, followed by residential energy usage.²⁷

Table 3.6-2: 2011 County Emissions Breakdown by Sector (million metric tons CO₂e/Year)

Sector	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano*	Sonoma*
Industrial/Commercial	2.7	17.8	0.4	0.2	1.2	1.4	4.1	2.7	0.5
Residential Fuel	1.3	1.0	0.3	0.1	0.9	0.8	1.5	0.3	0.4
Electricity/Co-gen.	0.9	7.2	0.1	0.1	0.5	0.4	2.2	0.4	0.2
Off-Road Equipment	0.2	0.2	0.0	0.0	0.2	0.1	0.4	0.0	0.
Transportation	7.9	5.0	1.3	0.9	3.0	5.0	7.6	1.6	2.0
Agriculture/Farming	0.1	0.2	0.2	0.1	0.0	0.0	0.2	0.1	0.2
Total	13.2	31.4	2.4	1.5	5.7	7.7	16.0	5.1	3.5

Notes:

* Portion within BAAQMD jurisdiction

BAAQMD = Bay Area Air Quality Management District; CO₂e = carbon dioxide equivalent; co-gen = cogeneration

Source: Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011. January. Website: http://www.baaqmd.gov/~media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf. Accessed June 5, 2018.

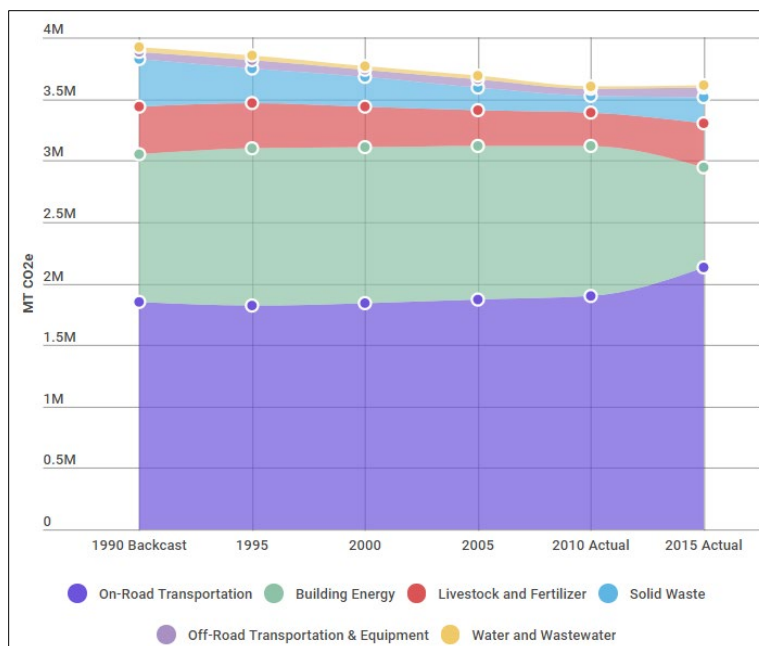
Sonoma County

The Regional Climate Protection Authority (RPCA) has begun to update the community-wide GHG inventory for Sonoma County. As shown in Figure 3.6-4, Countywide emissions have decreased overall primarily due to a decrease in GHG emissions due to building energy usage. Compared with 2010, GHG emissions due to building energy use were approximately 34 percent lower. On-road

²⁶ Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011. January. Website: http://www.baaqmd.gov/~media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf. Accessed June 5, 2018.

²⁷ City of Santa Rosa. 2012. City of Santa Rosa Climate Action Plan. Website: <https://srcity.org/DocumentCenter/View/10762>. Accessed June 5, 2018.

transportation is the largest GHG emissions section in Sonoma County, followed by building energy use, and livestock and fertilizer.



Source: Regional Climate Protection Authority (RCPA) 2018²⁸

Figure 3.6-4: Sonoma County Emissions Trend

City of Santa Rosa

The City of Santa Rosa completed a community-wide baseline GHG inventory for the year 2007 as part of the City's Climate Action Plan (CAP).²⁹ Table 3.6-3 shows the 2007 breakdown of GHG emissions by sector. As shown in Table 3.6-3, the transportation sector accounts for approximately 51 percent of the 1,349,690 MT CO₂e estimated to be created by community activities within Santa Rosa in 2007. The next largest contributors after transportation in 2007 included residential energy, non-residential energy, and solid waste. The community-wide inventory excludes municipal operations, which were estimated to total 27,820 MT CO₂e in 2007.

Table 3.6-3: Santa Rosa 2007 Community-Wide Baseline Emissions by Sector

Sector	Metric Tons CO ₂ e/year	Percentage of Total
Residential Energy	259,640	19 percent
Non-Residential Energy	209,880	16 percent
Solid Waste	139,770	10 percent
Transportation	684,280	51 percent
Water and Wastewater	9,840	1 percent

²⁸ Regional Climate Protection Authority (RCPA). 2018. 2015 Greenhouse Gas Inventory Update. April 19. Website: <http://rcpa.ca.gov/projects/climate-action-2020/>. Accessed June 6, 2018.

²⁹ City of Santa Rosa. 2012. City of Santa Rosa Climate Action Plan. Website: <https://srcity.org/DocumentCenter/View/10762>. Accessed September 15, 2017.

Sector	Metric Tons CO ₂ e/year	Percentage of Total
Off-Road	17,670	1 percent
Agriculture	170	<0.1 percent
Stationary Sources	28,440	2 percent
Total	1,349,690	100 percent
<p>Note: Due to rounding, the total may not be the sum of component parts. Source: City of Santa Rosa. 2012. City of Santa Rosa Climate Action Plan. Website: https://srcity.org/DocumentCenter/View/10762. Accessed: September 15, 2017.</p>		

Project Site

The project site is currently undeveloped and, thus, does not contain land uses that generate GHG emissions.

Climate Change Trends and Effects

CO₂ accounts for more than 75 percent of all anthropogenic GHG emissions, the atmospheric residence time of CO₂ (the duration of time that anthropogenic GHG emissions remain in the atmosphere) is decades to centuries. Global atmospheric concentrations of CO₂ continue to increase at a faster rate than ever previously recorded. Thus, the warming impacts of CO₂ will persist for hundreds of years after mitigation is implemented to reduce GHG concentrations.

California

Substantially higher temperatures, more extreme wildfires, and rising sea levels are just some of the direct effects experienced in California.^{30,31} As reported by the California Natural Resources Agency in 2009, despite annual variations in weather patterns, California has seen a trend of increased average temperatures, more extreme hot days, fewer cold nights, longer growing seasons, less winter snow, and earlier snowmelt and rainwater runoff. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and a larger proportion of total precipitation is falling as rain instead of snow.³² Sea level rose by as much as 7 inches along the California coast over the last century, leading to increased erosion and adding pressure to the State's infrastructure, water supplies, and natural resources, through inundation of coastal properties, sea water intrusion into groundwater supplies, and alteration of habitats.

These observed trends in California's climate are projected to continue in the future. Research indicates that California will experience overall hotter and drier conditions with a continued

³⁰ California Natural Resources Agency (CNRA). 2009. 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008. Website: http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf. Accessed June 5, 2018.

³¹ California Energy Commission (CEC). 2012. Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California. Website: <http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf>. Accessed June 5, 2018.

³² California Energy Commission (CEC). 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. Draft Final Report. CEC-600-2006-013-D. Website: <http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-D.PDF>. Accessed June 5, 2018.

reduction in winter snow (with concurrent increases in winter rains), as well as increased average temperatures and accelerated sea level rise. The frequency, intensity, and duration of extreme weather events such as heat waves, wildfires, droughts, and floods are also likely to increase.³³ In addition, increased air pollution and spread of insects potentially carrying infectious diseases will also occur as the climate-associated temperature and associated species clines shift in latitude.

The following is a summary of climate change factors and predicted trends specific to California. In California, climate change may result in consequences such as the following:^{34,35}

- **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 reduction 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.

³³ California Natural Resources Agency (CNRA). 2009. 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008. Website: http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf. Accessed June 5, 2018.

³⁴ California Climate Change Center. (CCCC). 2006. Our Changing Climate, Assessing the Risks to California: A Summary Report from the California Climate Change Center. July 2006. CEC-500-2006-077. Website: www.scc.ca.gov/webmaster/ftp/pdf/climate_change/assessing_risks.pdf.

³⁵ Moser et al. 2009. Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071. Website: www.energy.ca.gov/2008publications/CEC-500-2008-071/CEC-500-2008-071.PDF.

- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an increased insect population, and establishment of non-native species. The US Forest Service estimates that since 2010, 129 million trees have died in California's national forests due to conditions caused by climate change, unprecedented drought, bark beetle infestation and high tree densities.³⁶

Bay Area

The following is a summary of climate change factors and predicted trends specific to the Bay Area, using the latest information available as of 2014.

Temperature/Heat/Wildfire and Drought Events

The Bay Area is expected to experience warming over the rest of the 21st Century. Consistent with Statewide projections, the annual average temperature in the Bay Area will likely increase by 2.7°F between 2000 and 2050, based on GHGs that have already been emitted into the atmosphere. By the end of the century, the increase in the Bay Area's annual average temperature may range from approximately 3.5°F to 11°F relative to the average annual temperature simulated for the 1961–1990 baseline period used for the study, depending on the GHG emissions scenarios.³⁷ The projected rate of warming, especially in the latter half of the 21st Century, is considerably greater than warming rates derived from historical observed data.

Specific predictions related to temperature/heat are summarized below.

- The annual average temperature in the Bay Area has been increasing over the last several decades.
- The Bay Area is expected to see an increase in average annual temperature of 2.7°F by 2050, and 3.5°F to 11°F by 2100. Projections show a greater warming trend during the summer season. The coastal parts of the Bay Area will experience the most moderate warming trends.³⁸
- Extreme heat events are expected to increase in duration, frequency, and severity by 2050. Extreme freeze events are expected to decrease in frequency and severity by 2100, but occasional colder-than-historical events may occur by 2050.³⁹

Precipitation/Rainfall/Flooding Events

Studies of the effect of climate change on the long-term average precipitation for California show some disagreement.⁴⁰ Considerable variability exists across individual models, and examining the average changes can mask more extreme scenarios that project much wetter or drier conditions.

³⁶ United States Department of Agriculture Forest Service (USDA Forest Service). Tree Mortality in California. Website: https://www.fs.fed.us/psw/topics/tree_mortality/california/index.shtml. Accessed September 25, 2020.

³⁷ California Climate Change Center (CCCC). 2009. Climate Change Scenarios and Sea Level Rise Estimates for the California 2009 Climate Change Scenarios Assessment. Final Paper. CEC-500-2009-014-F. Website: <http://www.energy.ca.gov/2009publications/CEC-500-2009-014/CEC-500-2009-014-F.PDF>. Accessed June 5, 2018.

³⁸ Cal-Adapt. 2014. Climate Tools. Available: <http://cal-adapt.org/tools/>. Accessed 2014.

³⁹ *Ibid.*

⁴⁰ California Climate Change Center (CCCC). 2009. Climate Change Scenarios and Sea Level Rise Estimates for the California 2009. Climate Change Scenarios Assessment. Final Paper. CEC-500-2009-014-F. Website: <http://www.energy.ca.gov/2009publications/CEC-500-2009-014/CEC-500-2009-014-F.PDF>. Accessed June 5, 2018.

California is expected to maintain a Mediterranean climate through the next century, with dry summers and wet winters that vary between seasons, years, and decades. Wetter winters and drier springs are also expected, but overall annual precipitation is not projected to change substantially. By mid-century, more precipitation is projected to occur in winter in the form of less frequent but larger events. The majority of global climate models predict drying trends across the State by 2100.⁴¹

Specific factors related to precipitation/rainfall/extreme events are summarized below.

- The Bay Area has not experienced substantial changes in rainfall depth or intensities over the past 30 years.
- The Bay Area will continue to experience a Mediterranean climate, with little change in annual precipitation projected by 2050, although a high degree of variability may persist.
- An annual drying trend is projected to occur by 2100. The greatest decline in precipitation is expected to occur during the spring months, while minimal change is expected during the winter months.
- Increases in drought duration and frequency coupled with higher temperatures, as experienced in 2012, 2013, and 2014, will increase the likelihood of wildfires.
- California is expected to see increases in the magnitude of extreme events, including increased precipitation delivered from atmospheric river events, which would bring high levels of rainfall during short time periods and increase the chance of flash floods. The Bay Area is also expected to see an increase in precipitation intensities, but possibly through less frequent events.⁴²

Vectors/Disease Events

The increase in temperature associated with climate change will likely increase the vectors of insects, which thrive in hotter more tropical environments; this in turn, may increase the risk of some infectious diseases, particularly those diseases that appear in warm areas and are spread by mosquitoes and other insects, such as malaria, dengue fever, yellow fever, and encephalitis.

Air Quality/Pollution Events

Respiratory disorders will be exacerbated by warming-induced increases in the frequency of smog (ground-level ozone) events and particulate air pollution.⁴³ Although there could be health effects resulting from changes in the climate and the consequences that can occur, inhalation of GHGs at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in criteria pollutant analyses. At very high indoor concentrations (not at levels

⁴¹ California Natural Resources Agency (CNRA). 2009. 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008. Website: http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf. Accessed June 5, 2018.

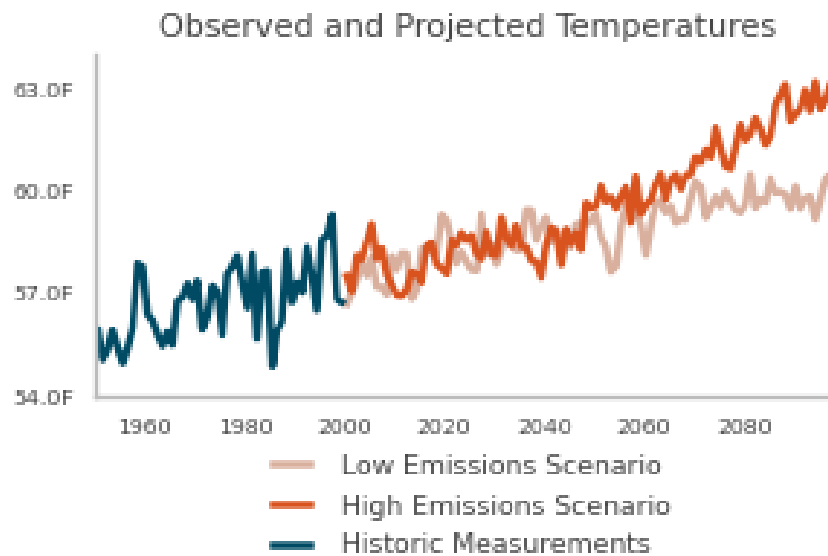
⁴² California Climate Change Center (CCCC). 2009. Climate Change Scenarios and Sea Level Rise Estimates for the California 2009 Climate Change Scenarios Assessment. Final Paper. CEC-500-2009-014-F. Website: <http://www.energy.ca.gov/2009publications/CEC-500-2009-014/CEC-500-2009-014-F.PDF>. Accessed June 5, 2018.

⁴³ United States Environmental Protection Agency (EPA). 2009. Ozone and your Health. EPA-456/F-09-001. Website: <http://www.epa.gov/airnow/ozone-c.pdf>. Accessed August 21, 2016.

existing outside), carbon dioxide, methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen.^{44,45}

Santa Rosa Area

Figure 3.6-5 displays a chart of measured historical and projected annual average temperatures in the Santa Rosa area. As shown in the figure, temperatures are expected to rise in the low and high GHG emissions scenarios. The results indicate that between a baseline time period (1961–1990) and an end of century period (2070–2090) temperatures are predicted to increase by 3.0°F under the low emission scenario and 5.3°F under the high emissions scenario.⁴⁶



Source: CalAdapt 2017⁴⁷

Figure 3.6-5: Observed and Projected Temperatures for Climate Change in the City of Santa Rosa Area

Project Site

The project site currently contains and is proximate to wildland areas. The project site also contains creeks and water detention areas that receive precipitation runoff directly from the site.

⁴⁴ Centers for Disease Control and Prevention (CDC). 2010. Department of Health and Human Services, the National Institute for Occupational Safety and Health. Carbon Dioxide. Website: www.cdc.gov/niosh/npg/npgd0103.html. Accessed February 14, 2017.

⁴⁵ Occupational Safety and Health Administration (OSHA). 2003. United States Department of Labor. Safety and Health Topics: Methane. Website: www.osha.gov/dts/chemicalsampling/data/CH_250700.html. Accessed August 21, 2016.

⁴⁶ CalAdapt. 2017. Local Climate Snapshots. Website: <http://v1.cal-adapt.org/tools/factsheet/>. Accessed September 22, 2017.

⁴⁷ *Ibid.*

Energy Basics

Energy is generally transmitted either in the form of electricity, measured in kilowatts (kW)⁴⁸ or megawatts (MW),⁴⁹ or natural gas, typically measured in British thermal units (BTU) or cubic feet.⁵⁰ Fuel, such as gasoline or diesel, is measured in gallons or liters.

Electricity

Electricity is used primarily for lighting, appliances, and other uses associated with the project.

Natural Gas

Natural gas is used primarily for heating, water heating, and cooking purpose and is typically associated with commercial and residential uses.

Fuel

Fuel is used primarily for powering off-road equipment, trucks, and worker vehicles. The typical fuel types used are diesel and gasoline.

Electricity Generation, Distribution, and Use

State of California

According to the California Energy Commission, the State of California generated approximately 285,488 gigawatt-hours (GWh)⁵¹ of electricity in 2018. Approximately 46.5 percent of the energy generation is sourced from natural gas, 32.4 percent from renewable sources (i.e., solar, wind, and geothermal), 11.3 percent from large hydroelectric sources, and the remaining 10 percent is sourced from coal, nuclear, oil, and other non-renewable sources.⁵²

In 2017, California ranked second in the nation in conventional hydroelectric generation and first as a producer of electricity from solar, geothermal, and biomass resources. In 2017, solar PV and solar thermal installations provided about 16 percent of California's net electricity generation.⁵³

Electricity and natural gas are distributed through the various electric load-serving entities (LSEs) in California. These entities include investor-owned utilities (IOUs), publicly owned LSEs, rural electric cooperatives, community choice aggregators, and electric service providers.⁵⁴

⁴⁸ 1 kW = 1,000 watts; A watt is a derived unit of power that measure rate of energy conversion. 1 watt is equivalent to work being done at a rate of 1 joule of energy per second. In electrical terms, 1 watt is the power dissipated by a current of 1 ampere flowing across a resistance of 1 volt.

⁴⁹ 1 MW = 1 million watts

⁵⁰ A unit for quantity of heat that equals 100,000 British thermal units. A British thermal unit is the quantity of heat required to raise the temperature of 1 pound of liquid water 1 degree Fahrenheit at a constant pressure of 1 atmosphere.

⁵¹ 1 GWh = 1 billion watt hours

⁵² California Energy Commission (CEC). 2020. 2018 Total System Electric Generation. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation/2018>. Accessed September 28, 2020.

⁵³ United States Energy Information Administration. 2018. California State Profile and Energy Estimates. November 15. Website: <https://www.eia.gov/state/?sid=CA>. Accessed November 5, 2019.

⁵⁴ California Energy Commission (CEC). 2019. Electric Load-Serving Entities (LSEs) in California. Website: https://www.energy.ca.gov/almanac/electricity_data/utilities.html. Accessed November 5, 2019.

City of Santa Rosa

Pacific Gas and Electric Company (PG&E) provides electricity to many of the cities throughout Sonoma County, including the City of Santa Rosa.⁵⁵ Sonoma Clean Power is a non-profit public agency that provides Sonoma County residents, including the City of Santa Rosa, energy from renewable sources.⁵⁶

Project Site

Until October 2020, the project site contained three single-family homes; all three structures were destroyed in the Glass Fire. PG&E provided electricity to these homes. According to the U.S. Energy Information Administration, households use approximately 94.6 million BTU of energy per detached single-family home.⁵⁷

Natural Gas Generation, Distribution, and Use

State of California

Natural gas is used for everything from generating electricity to cooking and space heating to an alternative transportation fuel. In 2012, total natural gas demand in California for industrial, residential, commercial, and electric power generation was 2,313 billion cubic feet (BCF) per year (BCF/year), up from 2,196 BCF/year in 2010.⁵⁸ Demand in all sectors except electric power generation remained relatively flat for the last decade due in large part to energy efficiency measures, but demand for power generation rose about 30 percent between 2011 and 2012.⁵⁹

Natural gas-fired generation has become the dominant source of electricity in California, as it fuels about 43 percent of electricity consumption followed by hydroelectric power. Because natural gas is a dispatchable resource that provides load when the availability of hydroelectric power generation and/or other sources decrease, use varies greatly from year to year. The availability of hydroelectric resources, the emergence of renewable resources for electricity generation, and overall consumer demand are the variables that shape natural gas use in electric generation. Due to above average precipitation in 2011, natural gas used for electricity generation was 617 BCF, compared to lower precipitation years in 2010 and 2012 when gas use for electric generation was 736 BCF and 855 BCF, respectively.⁶⁰ More precipitation results in more availability of hydroelectric power, resulting in lower demand for natural gas.

City of Santa Rosa

PG&E provides natural gas services to customers in the City of Santa Rosa. PG&E's natural gas services cover approximately 70,000 square miles in Northern and Central California. The

⁵⁵ California Energy Commission (CEC). 2015. California Electric Utility Service Areas Map. February 24. Website: https://ww2.energy.ca.gov/maps/serviceareas/electric_service_areas.html. Accessed November 5, 2019.

⁵⁶ Sonoma Clean Power. 2019. About Us—FAQs. Website: <https://sonomacleanpower.org/our-vision>. Accessed November 5, 2019.

⁵⁷ U.S. Energy Information Administration (EIA). 2018. Residential Energy Consumption Survey (RECS) – 2015 RECS Survey Data, Table CE1.1. May. Website: <https://www.eia.gov/consumption/residential/data/2015/c&e/pdf/ce1.1.pdf>. Accessed September 28, 2020.

⁵⁸ California Energy Commission (CEC). 2019. Supply and Demand of Natural Gas in California. Website: https://listserver.energy.ca.gov/almanac/naturalgas_data/overview.html. Accessed November 5, 2019.

⁵⁹ *Ibid.*

⁶⁰ *Ibid.*

transmission and delivery system comprise 1.5 million miles of transmission pipelines and distribution systems delivering natural gas to over 16 million people.

Project Site

PG&E is currently the natural gas provider to the project site. A baseline of zero was assumed for the purposes of estimate GHG emissions and energy usage associated with the project.

Fuel Use

State of California

The main category of fuel use in California is transportation fuel, specifically gasoline and diesel. Gasoline is the most used transportation fuel in California resulting in the sale of 15.1 billion gallons of gasoline in 2015 with 97 percent of all gasoline sold in California being consumed by light-duty cars, pickup trucks, and sport utility vehicles.⁶¹ Diesel is the second largest transportation fuel used in California. According to the state Board of Equalization, in 2015 4.2 billion gallons of diesel, including off-road diesel, was sold. Nearly all heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm, construction and heavy-duty military vehicles and equipment have diesel engines.⁶²

Project Site

Because all structures were destroyed during the Glass Fire in October 2020, the project site now contains the remains of three single-family homes. A baseline of zero was assumed for the purposes of estimate GHG emissions and energy usage associated with the project.

3.6.3 - Regulatory Framework

International

United Nations Climate Change Framework Convention

On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Climate Change Framework Convention on Climate Change (UNFCCC). Under the UNFCCC, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Western Climate Initiative (Western North America Cap-and-Trade Program)

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Each emitter caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Western Climate Initiative partner jurisdictions have developed a

⁶¹ California Energy Commission (CEC). 2019. California Gasoline, Data, Facts, and Statistics. Website: https://www.energy.ca.gov/almanac/transportation_data/gasoline/. Accessed November 5, 2019.

⁶² California Energy Commission (CEC). 2019. California Gasoline, Data, Facts, and Statistics. Website: https://www.energy.ca.gov/almanac/transportation_data/gasoline/. Accessed November 5, 2019.

comprehensive initiative to reduce North America GHG emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Currently only California and Quebec are participating in the cap-and-trade program.⁶³

Kyoto Protocol

The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of five percent against 1990 levels over the 5-year period from 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above pre-industrial levels, subject to a review in 2015.

On September 23, 2014, more than 100 heads of state and government, and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Summit, heads of government, business and civil society announced actions in climate change legislation that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience. Initiatives, coalitions and commitments included the adoption of a New York Declaration on Forests, which contains commitments to halve the loss of natural forests by 2020 and strive to end it by 2030; a total pledge of 2.3 billion dollars made to the Green Climate Fund (GCF); the launch of the Global Alliance of Climate-Smart Agriculture; the announcement by the insurance industry of intention to create a climate risk investment framework by 2015 in Paris; and the launch of a new Compact of Mayors.⁶⁴

Paris Climate Change Agreement

Parties to the UNFCCC reached a landmark agreement in December 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts, and undergo international review.

⁶³ Center for Climate and Energy Solutions (C2ES). 2015. Multi-State Climate Initiatives. Website: <http://www.c2es.org/us-states-regions/regional-climate-initiatives>. Accessed April 26, 2016.

⁶⁴ International Institute for Sustainable Development (IISD). 2014. Summary of Climate Summit 2014. September 23. Website: <https://enb.iisd.org/climate/cs/2014/html/crsvol172num18e.html>. Accessed September 28, 2020.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties, or “COP 21.” Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make “nationally determined contributions” (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and “progress made in implementing and achieving” their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every 5 years, with the clear expectation that they will “represent a progression” beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing \$100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address “loss and damage” resulting from climate change, which explicitly will not “involve or provide a basis for any liability or compensation”;
- Require parties engaging in international emissions trading to avoid “double counting”; and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country’s NDC.⁶⁵

On June 1, 2017, President Trump announced the decision for the United States to withdraw from the Paris Climate Accord.⁶⁶ The earliest possible effective withdrawal date by the United States cannot be before November 4, 2020. California remains committed to combating climate change through programs aimed to reduce GHG emissions.⁶⁷

Federal

Massachusetts et al. v. EPA (U.S. Supreme Court GHG Endangerment Ruling)

Massachusetts et al. v. EPA (Supreme Court Case 05-1120) was argued before the U.S. Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four GHGs, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act (CAA). A decision was made on April 2, 2007, in which the Supreme Court found that GHGs are air pollutants covered by the CAA. The Court held that the EPA Administrator must determine whether emissions of GHGs from new motor

⁶⁵ Center for Climate and Energy Solutions (C2ES). 2015. Outcomes of the U.N. Climate Change Conference. Website: <http://www.c2es.org/international/negotiations/cop21-paris/summary>. Accessed April 19, 2016.

⁶⁶ The White House. Statement by President Trump on the Paris Climate Accord. Website: <https://www.whitehouse.gov/the-press-office/2017/06/01/statement-president-trump-paris-climate-accord>. Accessed June 23, 2017.

⁶⁷ California Air Resources Board (ARB). 2017. New Release: California and China Team Up to Push for Millions More Zero-emission Vehicles. Website: <https://www.arb.ca.gov/newsreel/newsrelease.php?id=934>. Accessed June 27, 2017.

vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations; and
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed under “Clean Vehicles” below. After a lengthy legal challenge, the U.S. Supreme Court declined to review an Appeals Court ruling upholding that upheld the EPA Administrator findings.

Consolidated Appropriations Act (Mandatory GHG Reporting)

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the EPA. The first annual reports for the largest emitting facilities, covering calendar year 2010, were submitted to EPA in 2011.

Clean Air Act Permitting Programs (New GHG Source Review)

Certain types of industrial uses are required to obtain an operating permit under the Clean Air Act, providing oversight, monitoring, and restrictions on the amount of GHG emissions that can be released. The EPA issued a final rule on May 13, 2010, that establishes new GHG thresholds to define when permits are required under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs for new and existing industrial facilities. This final rule “tailors” the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, the EPA states:

This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the

functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

EPA GHG Performance Standards for New Stationary Sources

The EPA proposed new performance standards for emissions of carbon dioxide for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25-megawatt would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

Energy Independence and Security Act

The Energy Policy Act of 2005 created the Renewable Fuel Standard program, requiring the use of renewable fuels. The Energy Independence and Security Act of 2007 expanded this program by:

- Expanding the Renewable Fuel Standard program to include diesel in addition to gasoline;
- Increasing the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- Establishing new categories of renewable fuel, and setting separate volume requirements for each one; and
- Requiring EPA to apply life-cycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

This expanded Renewable Fuel Standard program lays the foundation for achieving substantial reductions of GHG emissions from the use of renewable fuels, reducing the use of imported petroleum, and encouraging the development and expansion of the nation's renewable-fuels sector.

EPA and National Highway Traffic Safety Administration Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards Final Rule

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a

national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. During this time period, vehicles were required to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. Together, these standards were anticipated to reduce CO₂ emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

The EPA and the NHTSA issued final rules on a second-phase joint rulemaking, establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012.⁶⁸ The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO₂ in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The EPA and NHTSA issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies proposed engine and vehicle standards that began in the 2014 model year and achieve up to a 20-percent reduction in CO₂ emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies proposed separate gasoline and diesel truck standards, which phased in starting in the 2014 model year achieving up to a 10-percent reduction for gasoline vehicles, and a 15-percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards were anticipated to achieve up to a 10-percent reduction in fuel consumption and CO₂ emissions from the 2014 to 2018 model years.

The State of California has received a waiver from EPA to have separate, stricter corporate average fuel economy standards. Thus, for purposes of the project, EPA's NHTSA GHG emissions and corporate average fuel economy standards would be implemented through compliance with California AB 1493, described below. It should be noted that the EPA recently rescinded California's waiver for its GHG and zero-emission vehicle mandates; however, all ARB standards are still in effect at the time of this writing.⁶⁹ In September 2020, Governor Gavin Newsom issued executive order N-79-20, which requires sales of all new passenger vehicles to be zero-emission by 2035 and additional measures to eliminate harmful emissions from the transportation sector.

⁶⁸ United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. Website: <http://www.epa.gov/otaq/climate/documents/420f12051.pdf>. Accessed August 21, 2016.

⁶⁹ Beveridge & Diamond PC. 2019. EPA [Environmental Protection Agency] Rescinds California's Authority to Regulate Vehicle Tailpipe Greenhouse Gas Emissions and to Implement a Zero-Emission Vehicle Program. September 24. Website: <https://www.jdsupra.com/legalnews/epa-rescinds-california-s-authority-to-72922/>. Accessed November 26, 2019.

State

California AB 32: Global Warming Solutions Act and Scoping Plan

The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020.

“Greenhouse gases” as defined under AB 32 include carbon dioxide, methane, NO_x, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The ARB is the State agency charged with monitoring and regulating sources of GHGs. 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.

The ARB approved the 1990 GHG emissions level of 427 million metric tons of carbon dioxide equivalents (MMT CO₂e) on December 6, 2007.⁷⁰ Therefore, to meet the State’s target, emissions generated in California in 2020 are required to be equal to or less than 427 MMT CO₂e. Emissions in 2020 in a Business as Usual (BAU) scenario were estimated to be 596 MMT CO₂e, which do not account for reductions from AB 32 regulations.⁷¹ At that rate, a 28 percent reduction was required to achieve the 427 MMT CO₂e 1990 inventory. In October 2010, the ARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. The 2020 inventory without the benefits of adopted regulation is now estimated at 545 MMT CO₂e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.⁷²

California has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. As shown below, the 2010 emission inventory achieved the target of reducing emissions to year 2000 levels. Also shown are the average reductions needed from all Statewide sources to reduce GHG emissions back to 1990 levels.

- 1990: 427 million MT CO₂e (AB 32 2020 Target)
- 2000: 463 million MT CO₂e (an average 8-percent reduction needed to achieve 1990 base)
- 2010: 450 million MT CO₂e (an average 5-percent reduction needed to achieve 1990 base)
- 2020: 545 million MT CO₂e BAU (an average 21.7-percent reduction from BAU needed to achieve 1990 base)

⁷⁰ California Air Resources Board (ARB). 2007. Staff Report. California 1990 Greenhouse Gas Level and 2020 Emissions Limit. November 16, 2007. Website: www.arb.ca.gov/cc/inventory/pubs/reports/staff_report_1990_level.pdf. Accessed February 14, 2017.

⁷¹ California Air Resources Board (ARB). 2008 (includes edits made in 2009). Climate Change Scoping Plan, a framework for change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed February 14, 2017.

⁷² California Air Resources Board (ARB). 2010. 2020 Greenhouse Gas Emissions Projection and BAU Scenario Emissions Estimate. Website: http://www.arb.ca.gov/cc/inventory/archive/captrade_2010_projection.pdf. Accessed February 14, 2017.

The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32.⁷³ 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. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. Capped strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and-trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve sufficient reductions by 2020 to achieve the emission target contained in AB 32. Uncapped strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions.⁷⁴

The ARB approved the First Update to the Scoping Plan (Update) on May 22, 2014. The Update identifies the next steps for California's climate change strategy. The Update shows how California continues on its path to meet the near-term 2020 GHG limit, but also sets a path toward long-term, deep GHG emission reductions. The report establishes a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. The Update identifies progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities for the next several years. The Update does not set new targets for

⁷³ California Air Resources Board (ARB). 2008 (includes edits made in 2009). Climate Change Scoping Plan, a framework for change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed February 14, 2017.

⁷⁴ California Air Resources Board (ARB). 2008 (includes edits made in 2009). Climate Change Scoping Plan, a framework for change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed February 14, 2017.

the State but describes a path that would achieve the long term 2050 goal of Executive Order S-05-03 for an 80 percent emission reduction below 1990 levels by 2050.

AB 32 does not give the ARB a legislative mandate to set a target beyond the 2020 target from AB 32 or to adopt additional regulations to achieve a post-2020 target. The Update estimates that reductions averaging 5.2 percent per year would be required after 2020 to achieve the 2050 goal. With no estimate of future reduction commitments from the State, identifying a feasible strategy including plans and measures to be adopted by local agencies is not currently possible.⁷⁵

The Cap-and-Trade Program is a key element of the Scoping Plan. It sets a Statewide limit on sources responsible for 85 percent of California's GHG emissions, and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest cost options to reduce emissions. The program conducted its first auction in November 2012. Compliance obligations began for power plants and large industrial sources in January 2013. Other significant milestones include linkage to Quebec's cap-and-trade system in January 2014 and starting the compliance obligation for distributors of transportation fuels, natural gas, and other fuels in January 2015.⁷⁶

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 Statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by the ARB in the First Update:

The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative.⁷⁷

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then

⁷⁵ California Air Resources Board (ARB). 2014. First Update to the Climate Change Scoping Plan. Website: <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>. Accessed February 14, 2017.

⁷⁶ California Air Resources Board (ARB). 2015. ARB Emissions Trading Program. Website: http://www.arb.ca.gov/cc/capandtrade/guidance/cap_trade_overview.pdf. Accessed February 14, 2017.

⁷⁷ California Air Resources Board (ARB). 2014. First Update to the Climate Change Scoping Plan. Website: <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>. Accessed February 14, 2017.

the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the “capped sectors.” Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California’s 2020 limit will be met because the regulation sets a firm limit on 85 percent of California’s GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State’s emissions forecasts and the effectiveness of direct regulatory measures.⁷⁸

California SB 375: Sustainable Communities and Climate Protection Act

SB 375 was signed into law on September 30, 2008. 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.

SB 375, as codified in 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 greenhouse gas emission reduction targets;
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies); and
3. Incorporates the mitigation measures required by an applicable prior environmental document.

⁷⁸ *Ibid.*

California AB 1493: Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.⁷⁹

The standards were phased in during the 2009 through 2016 model years. Fully phased in, the near-term (2009–2012) standards were estimated to result in an approximately 22-percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards were estimated to result in about a 30-percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.⁸⁰

The second phase of the implementation for the Pavley Bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as Low Emission Vehicle (LEV) III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation is expected to reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The rules will reduce pollutants from gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.⁸¹

California SB 1368: Emission Performance Standards

In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The California Public Utilities Commission adopted the

⁷⁹ California Air Resources Board (ARB). 2013. Clean Car Standards—Pavley, Assembly Bill 1493. Website: <http://www.arb.ca.gov/cc/ccms/ccms.htm>. Accessed February 14, 2017.

⁸⁰ California Air Resources Board (ARB). 2013. Facts About the Clean Cars Program. Website: http://www.arb.ca.gov/msprog/zevprog/factsheets/advanced_clean_cars_eng.pdf. Accessed February 14, 2017.

⁸¹ California Air Resources Board (ARB). 2011. Status of Scoping Plan Recommended Measures. Website: www.arb.ca.gov/cc/scoping_plan/sp_measures_implementation_timeline.pdf. Accessed February 14, 2017.

regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds CO₂ per megawatt-hour (MWh).

California SB 1078—Renewable Electricity Standards

On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. The ARB Board approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23.

California SB 350: Clean Energy and Pollution Reduction Act

In 2015, the State legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill due to opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce Statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the CEC, and local publicly owned utilities.
- Reorganize the Independent System Operator to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.⁸²

California SBX 7-7: Water Conservation Act

This 2009 legislation directs urban retail water suppliers to set individual 2020 per capita water use targets and begin implementing conservation measures to achieve those goals. Meeting this statewide goal of 20 percent decrease in demand will result in a reduction of almost 2 million acre-feet in urban water use in 2020.

⁸² California Legislative Information (California Leginfo). 2015. Senate Bill 350 Clean Energy and Pollution Reduction Act of 2015. Website: https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. Accessed September 28, 2017.

California Executive Order S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

The goal of Executive Order S-3-05 to reduce GHG emissions to 1990 levels by 2020 was codified by AB 32. The Executive Order S-3-05 2050 target has not been codified by legislation. Studies have shown that, in order to meet the 2050 target, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required.

California Executive Order B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The executive order set a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050, and directed the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MMCO₂e. The executive order also requires the State's climate adaptation plan to be updated every 3 years and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this executive order is not legally enforceable against local governments and the private sector.

As discussed above, Executive Order B-30-15 establishes an interim goal to reduce GHG emissions to 40 percent below 1990 levels by 2030. The 2030 goal was codified under SB 32 and is now addressed by the 2017 Scoping Plan Update. The new plan provides a strategy for the State to reach the SB 32 target if the measures included in the plan are implemented and achieve reductions within the anticipated ranges. Under the Scoping Plan Update, local government plays a supporting role through its land use authority and control over local transportation infrastructure.

California Executive Order S-01-07—Low Carbon Fuel Standard

The Governor signed Executive Order S 01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, the ARB, the University of California, and other agencies to develop and propose protocols

for measuring the “life-cycle carbon intensity” of transportation fuels. The analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by the CEC on December 24, 2007) and was submitted to the ARB for consideration as an “early action” item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The Low Carbon Fuel Standard was subject to legal challenge in 2011. Ultimately, on August 8, 2013, the Fifth District Court of Appeal (California) ruled that ARB failed to comply with CEQA and the Administrative Procedure Act when adopting regulations for Low Carbon Fuel Standards. In a partially published opinion, the Court of Appeal directed that Resolution 09-31 and two executive orders of the ARB approving LCFS regulations promulgated to reduce GHG emissions be set aside. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while ARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, ARB was required to create new LCFS regulation for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The second public hearing for the new LCFS regulation was held on September 24, 2015 and September 25, 2015, where the LCFS Regulation was adopted. The Final Rulemaking Package adopting the regulation was filed with the Office of Administrative Law (OAL) on October 2, 2015. The OAL approved the regulation on November 16, 2015.⁸³

California Executive Order S-13-08

Executive Order S-13-08 states that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy was adopted, which is the “. . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

California Code of Regulations Title 20: Appliance Efficiency Regulations

California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold

⁸³ California Air Resources Board (ARB). 2015. Low Carbon Fuel Standard Regulation. Website: <http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm>. Accessed September 22, 2017.

exclusively for use in recreational vehicles or other mobile equipment.⁸⁴ The increased efficiency would reduce the need for energy and reduce GHG.

California Code of Regulations Title 24: Energy Efficiency Standards

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; and therefore, reduces fossil fuel consumption and decrease GHG emissions. The 2016 Building Energy Efficiency Standards went into effect on January 1, 2017.⁸⁵ The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for construction of new residential and nonresidential buildings. The 2019 Building Energy Efficiency Standards went into effect on January 1, 2020.⁸⁶

California Code of Regulations Title 24: California Green Building Standards Code

California Code of Regulations Title 24, Part 11 (code), is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided, they include a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The California Building Standards Code (CBC) provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

The California Green Building Standards Code (CALGreen) (CCR Title 24, Part 11) requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- **Long-term bicycle parking.** For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).

⁸⁴ California Energy Commission (CEC). 2012. 2013 Title 24 Building Energy Efficiency Standards Adoption Hearing Presentation. Website: http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/final_rulemaking_documents/31_2013_Adoption_Hearing_Presentation_5-31.pdf. Accessed October 19, 2015.

⁸⁵ California Energy Commission (CEC). 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Website: http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf. Accessed December 1, 2016.

⁸⁶ California Energy Commission (CEC). 2020. 2019 Building Energy Efficiency Standards. Website: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>. Accessed January 15, 2020.

- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- **Recycling by Occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling (5.410.1).
- **Construction waste.** A minimum 65-percent diversion of construction and demolition waste from landfills. (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).
- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:
 1. The installation of water-conserving fixtures or
 2. Using non-potable water systems (5.303.4).
- **Water use savings.** 20-percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35 and 40-percent reductions (5.303.2, A5303.2.3 [nonresidential]).
- **Water meters.** Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).
- **Irrigation efficiency.** Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).
- **Materials pollution control.** Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring and particleboard (5.404).
- **Building commissioning.** Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

In summary, the CALGreen Code seeks to reduce GHG emissions through a number of means including water use reduction and energy efficiencies.

California Model Water Efficient Landscape Ordinance

The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881 Water Conservation Act. The Bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (Senate Bill X-7-7) 2020 mandate are expected for each local ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (Executive Order B-29-15) directed the Department of Water Resources to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015, which became effective on December 15, 2015. New development projects that include landscaped areas of 500 square feet or more are subject to the Ordinance. The updated Ordinance requires:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high water use plants
- Reporting requirements for local agencies.

California SB 97 and the CEQA Guidelines Update

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states “(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a).”

Section 21097 was also added to the Public Resources Code, which provided an exemption until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA. The Natural Resources Agency completed the approval process, and the Amendments became effective on March 18, 2010.

The 2010 CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.4(b) of the CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of GHG emissions:

- The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project’s incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The CEQA Guidelines Amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Instead, they call for a

“good-faith effort, based on available information, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project.” The amendments encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies’ discretion to make its own determinations based upon substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier during individual project analyses.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts, respectively. GHG mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (CEQA Guidelines § 15130) simply directs agencies to analyze GHG emissions in an EIR when a project’s incremental contribution of emissions may be cumulatively considerable; however, cumulatively considerable emissions is not defined.

Section 15183.5 permits programmatic GHG analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project’s cumulative effect is not cumulatively considerable, according to Section 15183.5(b).

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include GHG questions. The most recent sample environmental checklist in Appendix G was further amended in 2018 to include two energy questions.

CEQA emphasizes that the effects of GHG emissions are cumulative, and should be analyzed in the context of CEQA’s requirements for cumulative impacts analysis (see CEQA Guidelines § 15130(f)).

Center for Biological Diversity v. California Department of Fish and Wildlife (California Supreme Court GHG Ruling)

In a November 30, 2015 ruling, the California Supreme Court in *Center for Biological Diversity (CBD) v. California Department of Fish and Wildlife (CDFW)* concluded that whether the Newhall Ranch project was consistent with meeting Statewide emission reduction goals is a legally permissible criterion of significance, but the significance finding for the project was not supported by a reasoned explanation based on substantial evidence. The Court offered potential solutions on pages 25–27 of the ruling to address this issue summarized below:

Specifically, the Court advised that:

- **Substantiation of Project Reductions from Business as Usual (BAU).** A lead agency may use a BAU comparison based on the Scoping Plan’s methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the “data behind the Scoping Plan’s business-as-usual model” to determine the necessary project-level reductions from new land use development at the proposed location (p. 25).

- **Compliance with Regulatory Programs or Performance Based Standards.** A lead agency “might assess consistency with A.B. 32’s goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities. (See Final Statement of Reasons, *supra*, at p. 64 [greenhouse gas emissions ‘may be best analyzed and mitigated at a programmatic level.’].)” To the extent a project’s design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with ‘performance based standards’ adopted to fulfill ‘a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions’ (CEQA Guidelines § 15064.4(a)(2), (b)(3); see also *id.*, § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including ‘plans or regulations for the reduction of greenhouse gas emissions’]) (p. 26).
- **Compliance with GHG Reduction Plans or CAPs.** A lead agency may utilize “geographically specific GHG emission reduction plans” such as CAPs or greenhouse gas emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (p. 26).
- **Compliance with Local Air District Thresholds.** A lead agency may rely on “existing numerical thresholds of significance for greenhouse gas emissions” adopted by, for example, local air districts (p. 27).

Therefore, consistent with CEQA Guidelines Appendix G, the three factors identified in CEQA Guidelines Section 15064.4 and the recently issued Newhall Ranch opinion, the GHG impacts would be considered significant if the project would:

- Conflict with a compliant GHG Reduction Plan if adopted by the lead agency;
- Exceed the applicable GHG Reduction Threshold; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.

Regional

Bay Area 2017 Clean Air Plan

The BAAQMD is responsible for attaining and maintaining federal and State air quality standards in the San Francisco Bay Area Air Basin (Air Basin), as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. The CAA and CCAA require that plans be developed for areas that do not meet air quality standards. The BAAQMD adopted the Bay Area Clean Air Plan: Spare the Air, Cool the Climate (Bay Area Clean Air Plan) on April 19, 2017, to provide a regional strategy to improve Bay Area air quality and meet public health goals.⁸⁷ The control strategy described in the Bay Area Clean Air Plan includes a wide range of control measures designed to reduce emissions and lower ambient concentrations of harmful pollutants, safeguard public health

⁸⁷ Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. Website: http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed April 24, 2018.

by reducing exposure to air pollutants that pose the greatest health risk, and reduce GHG emissions to protect the climate.

In addition, the BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the Air Basin. The program includes GHG-reduction measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative energy sources.⁸⁸

The BAAQMD CEQA Air Quality Guidelines also assist lead agencies in complying with CEQA requirements regarding potentially adverse impacts on air quality. The BAAQMD advises lead agencies to consider adopting a GHG reduction strategy capable of meeting AB 32 goals. This is consistent with the approach to analyzing GHG emissions described in State CEQA Guidelines Section 15183.5. These Guidelines were legally challenged on a procedural ground that public hearings were not held in connection with the thresholds that were established. However, they are widely recognized and used as a guideline for lead agencies.

Local

City of Santa Rosa Climate Action Plan

The City of Santa Rosa adopted its Climate Action Plan (CAP) in June 2012. The CAP identifies policies that will achieve the State-recommended GHG target of 15 percent below 2008 levels by the year 2020 and the locally adopted reduction goal of 25 percent below 1990 levels by 2015. The CAP provides goals, measures, and associated actions, in the topical areas of energy efficiency and conservation, renewable energy, parking and land use management, improved transport options, optimized vehicular travel, waste reduction, recycling and composting, water and wastewater, agriculture and local food, and off-road vehicles and equipment. The CAP contains a compliance checklist for new development, which is used to determine compliance with the CAP.

3.6.4 - Impacts and Mitigation Measures

Significance Thresholds

According CEQA Guidelines Appendix G, to determine whether impacts related to greenhouse emissions and energy 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?
- c) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
- d) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

⁸⁸ Bay Area Air Quality Management District (BAAQMD). 2010. Climate Protection Planning Program. Website: <http://www.baaqmd.gov/plans-and-climate/climate-protection/climate-protection-program>. Accessed June 5, 2018.

Approach to Analysis

GHG Emissions Generation Calculation Methodology

GHG emissions and global climate change represent cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the GHG emissions from past, present, and reasonably foreseeable future projects and activities have contributed and will contribute to global climate change and its associated environmental impacts.

GHGs Assessed

This analysis is restricted to GHGs identified by AB 32, which include CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. As the project consists of the construction and operation of a senior community care facility, it would primarily generate CO₂, CH₄, and N₂O resulting from fossil fuel combustion. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, and hydrofluorocarbons are typically used for refrigerants (such as in a cold storage facility), none of which would be used by the project.

The project may emit GHGs that are not defined by AB 32. For example, the project may generate aerosols through emissions of DPM from the vehicles and trucks that would access the project site. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high global warming potential; however, the IPCC states that it has a low level of scientific certainty.⁸⁹

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities. The project would emit NO_x and VOC, which are ozone precursors. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

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 used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

Model Selection

The CalEEMod version 2016.3.1 was used to estimate the project's construction-related GHG emissions. At the time construction emissions were estimated, CalEEMod version 2016.3.1 was the latest version of CalEEMod. CalEEMod version 2016.3.2 was used to estimate the project's operational-related GHG emissions. CalEEMod is recommended by the BAAQMD to assess criteria

⁸⁹ Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Website: www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html. Accessed June 15, 2017.

pollutants and GHGs when analyzing related impacts from proposed land use projects and plans.⁹⁰ CalEEMod was developed in cooperation with air districts throughout the State and is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential GHG emissions associated with construction and operation from a variety of land uses. Specifically, the model was developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts. CalEEMod quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Further, the model identifies mitigation measures to reduce criteria pollutants and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California Air Districts to account for local requirements and conditions. The model is periodically updated when modifications are warranted.

The model is a comprehensive tool for quantifying air quality impacts from land use projects located throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as preparing CEQA or National Environmental Policy Act (NEPA) documents, conducting pre-project planning, and verifying compliance with local air quality rules and regulations.⁹¹

Construction

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site GHG emissions principally consist of exhaust emissions from heavy-duty construction equipment. Off-site GHG emissions would occur from motor vehicle exhaust from material delivery vehicles and construction worker traffic.

The construction parameters used to estimate the project's construction-related GHG emissions were based on applicant-provided data and CalEEMod default-provided assumptions. Full assumptions are detailed in the CalEEMod output contained in Appendix C.

Operation

Operational GHG emissions are those GHG emissions that occur during operation of the project. The major sources are summarized below.

Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the project site. The emissions were estimated using CalEEMod. The average daily trip generation rates for project operations were obtained from the project-specific traffic

⁹⁰ Bay Area Air Quality Management District (BAAQMD). 2018. California Environmental Quality Act (CEQA)/Tools and Methodology. Website: <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools>. Accessed April 29, 2019.

⁹¹ California Air Pollution Control Officers Association (CAPCOA). 2017. California Emissions Estimator Model. Website: <http://www.aqmd.gov/caleemod/home>. Accessed April 27, 2019.

analysis performed by W-Trans⁹² and are consistent with Institute of Transportation Engineers (ITE) Manual, 9th Edition.⁹³

Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. Pass-by trips are not diverted from another roadway. The CalEEMod defaults pass-by trips were used for this analysis.

The CalEEMod default round trip lengths for an urban setting for the San Francisco Air Basin portion of Sonoma County were used in this analysis. The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline and diesel-powered vehicles). The CalEEMod default vehicle fleet mix was used for the San Francisco Air Basin portion of Sonoma County was used for this analysis.

Architectural Coatings

Paints release VOC emissions during application and drying. The buildings in the project would be repainted on occasion. CalEEMod defaults were used for this purpose.

Consumer Products

Consumer products are various solvents used in non-industrial applications, which emit VOC during their product use. “Consumer Product” means a chemically formulated product used by household and institutional consumers, including but not limited to detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products, but it does not include other paint products, furniture coatings, or architectural coatings.⁹⁴ The default emission factors developed for CalEEMod was used.

Landscape Equipment

The landscaping equipment (leaf blowers, chain saws, mowers) would generate GHG emissions as a result of fuel combustion based on assumptions in the CalEEMod model.

Electricity

PG&E provides estimates of its emission factor per megawatt hour of electricity delivered to its customers. PG&E emissions factor for 2020 for CO₂ is provided below. The rates for methane and nitrous oxide are based on compliance with the Renewable Portfolio Standard. The factors listed below were applied in estimating project emissions for the 2023 and 2030 operational years.

- Carbon dioxide: 290 pound (lb)/MWh
- Methane: 0.022 lb/MWh
- Nitrous oxide: 0.005 lb/MWh

⁹² W-Trans. 2020. Traffic Impact Study for the Elnoka CCRC Project. October 15.

⁹³ Institute of Transportation Engineers (ITE). 2012. Trip Generation Manual 9th Edition. Website: <http://www.ite.org/tripgeneration/trippubs.asp>. Accessed October 25, 2017.

⁹⁴ California Air Resources Board (ARB). 2011. Regulation for Reducing Emissions from Consumer Products. Website: https://www.arb.ca.gov/consprod/regs/2015/article_2_final_1-22-15.pdf. Accessed September 22, 2017.

CalEEMod has three categories for electricity consumption: electricity that is impacted by Title 24 regulations; non-Title 24 electricity; and lighting. The Title 24 uses are defined as the major building envelope systems covered by CBC Title 24 Part 6, such as space heating, space cooling, water heating, and ventilation. Lighting is separate since it can be both part and not part of Title 24. Since lighting is not part of the building envelope energy budget, CalEEMod does not consider lighting to have any further association with Title 24 references in the program. Non-Title 24 includes everything else such as appliances and electronics. To properly divide the total electricity consumption into the three categories, the percentage for each category is determined by using percentages derived from the CalEEMod default electricity intensity. The percentages are applied to the electricity consumption to obtain the values used in the analysis.

Natural Gas

There would be emissions from the combustion of natural gas used for the project (water heaters, heat, etc.). CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24. CalEEMod defaults were used.

Water and Wastewater

GHG emissions are emitted from the use of electricity to pump water to the project and to treat wastewater. CalEEMod defaults were used.

Solid Waste

GHG emissions would be generated from the decomposition of solid waste generated by the project. CalEEMod was used to estimate the GHG emissions from this source. The CalEEMod default for the mix of landfill types is as follows:

- Landfill no gas capture—6 percent;
- Landfill capture gas flare—94 percent;
- Landfill capture gas energy recovery—0 percent.

Vegetation

There is currently carbon sequestration occurring on-site from existing vegetation. The site plan would respect the natural features and slopes of the site and integrate trees, creeks, and riparian areas into the design. The project plans to incorporate the proposed uses into the hillside and ensure the natural curvature of the hill is maintained. In addition, the project would retain approximately 75 percent of the existing on-site trees and would also plant trees and integrate landscaping into the project design, which would provide carbon sequestration. However, the exact number of trees to be planted has not been determined at this time and data are insufficient to accurately determine the impact that existing plants have on carbon sequestration. For this analysis, it was conservatively assumed that the loss and addition of carbon sequestration that are due to the project would be balanced; therefore, emissions due to carbon sequestration were not included.

Energy Consumption Methodology

For the purposes of this Draft EIR, the approach to analysis for energy use is based on 2019 CEQA Guidelines Appendix F (Energy Conservation). CEQA Guidelines Appendix F is focused on the goal of conserving energy through the wise and efficient use of energy. The anticipated electricity, natural gas,

and fuel consumption associated with the proposed project were estimated using assumptions consistent with those used to estimate GHG emissions generated by the project.

Specific Thresholds of Significance

While the final determination of whether or not a project is significant is within the purview of the lead agency pursuant to CEQA Guidelines Section 15064(b), the BAAQMD recommends that its quantitative and qualitative air pollution thresholds be used to determine the significance of project GHG emissions. The City has determined, in its discretion, to utilize these thresholds. These thresholds are discussed under each impact section below.

Impact Evaluation

Greenhouse Gas Emissions

Impact GHG-1: **Implementation of the proposed project would generate direct and indirect greenhouse gas emissions that could result in a significant impact on the environment.**

As explained further above, this analysis is restricted to emissions of the GHGs identified as those of California concern by AB 32, which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of GHG emissions during construction and operation, including several defined by AB 32 such as carbon dioxide, methane, and nitrous oxide.

The project could also generate GHG emissions that are not defined by AB 32. For example, emissions of DPM from vehicles and trucks that would access the project site may generate aerosols with black carbon which has a high global warming potential; however, aerosols are short-lived particles remaining in the atmosphere for about one week. In addition, water vapor could be generated via evaporated water used for on-site landscaping; however, water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities. Furthermore, the project could generate nitrogen oxides and VOCs, which are ozone precursors. Although there are slight differences in the definition of reactive organic gases (ROGs) and VOCs, the two terms are often used interchangeably. Nitrogen oxides (NO_x) and ROGs are assessed in Section 3.2, Air Quality. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere (6 to 10 kilometers from Earth) is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric (extending to about 32 miles above the Earth's surface) ozone can be reduced through reactions with other pollutants. Thus, potential GHG emissions in the form of aerosols, water vapor, ozone, and VOCs are anticipated to be negligible and is not further discussed as part of this impact analysis.

Certain GHGs defined by AB 32 would not be generated by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used during construction or operation of the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride. Hydrofluorocarbons are used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants. During operation, there may be leakage of refrigerants (hydrofluorocarbons) from air conditioners and the

refrigeration system; however, residential and continuing care uses of refrigerants are minor. Therefore, it is not anticipated the project would emit substantial quantities of hydrofluorocarbons.

An upstream GHG emissions source (also known as life cycle emissions) refers to emissions that are generated during the manufacturing and transportation of products that would be utilized for project construction. Upstream emission sources for construction of the project include but are not limited to GHG emissions from the manufacturing of cement and steel as well as from the transportation of building materials to the seller of such products. The upstream emissions associated with construction of the project have not been estimated as part of this impact analysis, because such upstream emissions are not within the control of the project, the information is not readily available, and to characterize these emissions would be speculative. Additionally, the California Air Pollution Control Officers Association White Paper on CEQA and Climate Change supports this approach by stating, “The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for . . . and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level.”⁹⁵ Therefore, pursuant to CEQA Guidelines Sections 15144 and 15145, upstream/life cycle emissions are speculative, and are not further discussed as part of this impact analysis.

The BAAQMD provides guidance in its 2017 CEQA Guidelines for assessing a project’s project-level GHG emissions generation. The BAAQMD does not presently provide a construction-related GHG emissions generation significance threshold; however, the BAAQMD does recommend that construction-generated GHG emissions be quantified and disclosed. The BAAQMD also recommends that lead agencies (in this case, the City of Santa Rosa) make a determination of the level of significance of construction-generated GHG emissions in relation to meeting AB 32 GHG emissions reduction goals. The lead agency is also encouraged to incorporate BMPs to reduce GHG emissions during project construction, as feasible and applicable.

The BAAQMD provides an operational-related GHG emissions generation significance threshold for use when determining a project’s potential GHG emissions generation impacts. The thresholds suggested by BAAQMD for project-level operational GHG emissions generation are as follows:

- Compliance with a qualified Greenhouse Gas Reduction Strategy; or
- 1,100 MT CO₂e/year; or
- 4.6 metric tons of CO₂ equivalent per service population (employees plus residents) per year.

The BAAQMD’s Air Quality Guidelines state that if annual emissions of GHG emissions exceed these thresholds, a project would result in a cumulatively considerable significant impact to global climate change.

The BAAQMD’s thresholds of significance were established based on meeting the 2020 GHG targets set forth in the AB 32 Scoping Plan. According to the BAAQMD Air Quality Guidelines, analyzing the land use efficiency of GHG emissions per service population for a project is the appropriate method

⁹⁵ California Air Pollution Control Officers Association (CAPCOA). 2008. CEQA and Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. Available: <<http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf>>.

for demonstrating a land use project's compliance with legislative GHG emission reduction goals that are highly efficient but would otherwise generate mass emissions greater than the BAAQMD bright-line significance threshold.⁹⁶ Because the project would include multiple land uses and introduce new residents and employees, the estimated annual emissions for the project were compared with the 4.6 MT CO₂e/service population/year threshold for the 2023 operational year and 2.6 MT CO₂e/service population/year for the 2030 operational year to determine significance for this criterion. For developments that would occur beyond 2020, the service population threshold of significance (4.6 MT CO₂e/service population/year) was adjusted to a "substantial progress" threshold that was calculated based on the GHG reduction goals of SB 32/Executive Order B-30-15 and the projected 2030 statewide population and employment levels.⁹⁷ The efficiency threshold of 2.6 MT CO₂e/service population/year is needed to meet the 2030 target.

Construction

The project would emit GHG emissions during construction from the off-road construction equipment, worker vehicles, and any hauling that may occur. Total GHG emissions generated during all phases of construction were quantified and combined and are presented in Table 3.6-4. In order to assess the construction emissions, the total emissions generated during construction were amortized based on the life of the development (30 years) and added to the operational emissions. Construction of the project is estimated to generate approximately 3,946 MT CO₂e. Total project emissions (from both construction and operations) were analyzed against the BAAQMD efficiency threshold of 4.6 MT CO₂e/service population/year for the 2023 operational year and the projected 2.6 MT CO₂e/service population/year for the 2030 operational year.

Table 3.6-4: Project Construction GHG Emissions

Construction Phases	Total Emissions (MT CO ₂ e/year)
2020	
Phase 1 Demolition ¹	32.9
Phase 1 Site Preparation	22.8
Phase 1 Grading	222.7
Phase 1 Building Construction	642.6
<i>2020 Total Emissions</i>	<i>920.9</i>
2021	
Phase 1 Building Construction	1,870.5
Phase 1 Paving	27.6
Phase 1 Architectural Coating	18.7
<i>2021 Total Emissions</i>	<i>1,916.7</i>

⁹⁶ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed March 18, 2021.

⁹⁷ Association of Environmental Professionals (AEP). 2016. Final White Paper Beyond 2020 an149d Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. Website: https://www.califaep.org/images/climate-change/AEP-2016_Final_White_Paper.pdf. Accessed December 20, 2018.

Construction Phases	Total Emissions (MT CO ₂ e/year)
2022	
Phase 2 Building Construction	273.2
Phase 2 Paving	6.4
Phase 2 Architectural Coating	1.9
<i>2022 Total Emissions</i>	<i>281.4</i>
2023	
Phase 3 Building Construction	270.2
Phase 3 Paving	6.4
Phase 3 Architectural Coating	1.8
<i>2023 Total Emissions</i>	<i>278.4</i>
2024	
Phase 4 Building Construction	267.1
Phase 4 Paving	6.3
Phase 4 Architectural Coating	1.8
<i>2024 Total Emissions</i>	<i>275.3</i>
2025	
Phase 5 Building Construction	264.7
Phase 5 Paving	6.3
Phase 5 Architectural Coating	1.8
<i>2025 Total Emissions</i>	<i>272.9</i>
All years of Construction (2020-2025)	
Total Construction Emissions	3,945.5
Construction Emissions Amortized Over the Life of the Project (30 years)	131.5
Note: Calculations use unrounded numbers. ¹ The Glass Fire destroyed all existing structures, and removal of all debris is anticipated to occur before construction activities commence. Source: CalEEMod Output (see Appendix C).	

As shown in Table 3.6-4, during construction the project would generate approximately 3,946 MT CO₂e, which is approximately 132 MT CO₂e per year when amortized over 30 years.

Operation

Operational or long-term emissions occur over the life of a project. Sources for operational emissions include:

- **Motor Vehicles:** These emissions refer to GHG emissions contained in the exhaust from the cars and trucks that would travel to and from the project site.
- **Natural Gas:** These emissions refer to the GHG emissions that occur when natural gas is burned on the project site. Natural gas uses could include heating water, space heating, dryers, stoves, or other uses.
- **Indirect Electricity:** These emissions refer to those generated by off-site power plants to supply electricity required for the project.
- **Water Transport:** These emissions refer to those generated by the electricity required to transport and treat the water to be used on the project site.
- **Waste:** These emissions refer to the GHG emissions produced by decomposing waste generated by the project.

Operational GHG emissions by source are shown in Table 3.6-5. Total operational emissions were estimated at approximately 4,797 MT CO₂e per year, assuming full buildout in the year 2023. As previously indicated, the analysis includes construction emissions amortized over the project's life. The project would generate approximately 4,929 MT CO₂e with the addition of amortized construction emissions. The project is expected to accommodate 975 residents and 194 employees, resulting in a service population of 1,169. The estimated total annual project-generation emissions, including operational emissions and amortized construction emissions, were compared with the efficiency threshold of 4.6 MT CO₂e/service population/year in the 2023 operational year and the efficiency threshold of 2.6 MT CO₂e/service population/year in the 2030 operation year to determine significance.

Table 3.6-5: Project Operational GHG Emissions

Emission Source	Year 2023 Project Total Emissions (MT CO ₂ e per year)	Year 2030 Project Total Emissions (MT CO ₂ e per year)
Area	8.5	8.5
Energy ¹	426.4	426.4
Mobile	3,894.0	3,245.5
Waste	380.8	380.8
Water	87.6	87.6
Amortized Construction Emissions	131.5	131.5
<i>Total Project Emissions</i>	<i>4,928.8</i>	<i>4,280.3</i>
Service Population (Employees + Residents)	1,169	1,169
Project Emission Generation (MT CO₂e/service population/year)	4.2²	3.7³
BAAQMD 2017 Threshold (MT CO₂e/service population/year)	4.6	2.6⁴
Does Project exceed threshold?	No	Yes

Emission Source	Year 2023 Project Total Emissions (MT CO ₂ e per year)	Year 2030 Project Total Emissions (MT CO ₂ e per year)
<p>Notes:</p> <p>MT CO₂e = metric tons of carbon dioxide equivalent.</p> <p>Unrounded results used to calculate totals.</p> <p>¹ The project would be subject to the Santa Rosa All-Electric Ordinance that went into effect January 1, 2020</p> <p>² 4,928.8 total MT CO₂e per year (for the 2023 operational year) divided by a service population of 1,169 persons equals 4.2 MT CO₂e /service population/year.</p> <p>³ 4,280.3 total MT CO₂e per year (for the 2030 operational year) divided by a service population of 1,169 persons equals 3.7 MT CO₂e /service population/year.</p> <p>⁴ Adjusted threshold to account for 2017 Scoping Plan Update's 40 percent reduction goal by 2030. Source of Emissions: CalEEMod Output (Appendix C)</p>		

As shown in Table 3.6-5, the project would generate approximately 4.2 MT CO₂e per service person per year in the year 2023 and 3.7 MT CO₂e per service person per year in the year 2030. Therefore, the project would not exceed the BAAQMD's threshold of 4.6 MT CO₂e/service population/year for GHG emissions in 2023; however, the project would exceed the projected efficiency threshold of 2.6 MT CO₂e/service population/year in the 2030 operational year. This represents a potentially significant impact, and mitigation would be required to reduce the project's estimated generation of GHG emissions.

MM GHG-1 requires the project reduce its GHG emissions by 426 MT CO₂e in the 2030 operational year through on-site electricity generation, the purchase of renewable electricity from the utility provider, and/or any combination thereof. It should be noted that it cannot be guaranteed that 100 percent of electricity demand would be offset due to the timing of electricity supply and demand and fluctuating output due to weather and solar coverage; therefore, in the event that on-site electricity generation is pursued for the project, the purchase of renewable electricity from the utility provider for any remaining electricity demand would be required under MM GHG-1.

To meet the efficiency threshold of 2.6 MT CO₂e/service population/year in the 2030 operational year, the project would be required to reduce GHG emissions by 815 MT CO₂e per year starting in 2030. Therefore, MM GHG-2 is required to reduce project-generated emissions to the extent required to reduce the impact to less than significant. Specifically, MM GHG-2 imposes a performance standard that requires the project applicant to purchase voluntary carbon credits from a verified GHG emissions credit broker in an amount sufficient to offset operational GHG emissions of approximately 815 MT CO₂e per year over the lifetime of the project (or a reduced amount estimated based on inclusion of other feasible mitigation measures that offset said emissions).

The project would not generate GHG emissions that would exceed the applicable thresholds with implementation of MM GHG-1 and MM GHG-2. Therefore, the project would not result in a significant generation of GHG emissions after incorporation of mitigation.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures**MM GHG-1 Achieve carbon-neutral electricity use equivalence**

The applicant shall ensure that the project's estimated GHG emissions are reduced by 426 MT CO₂e per year through the applicant committing to on-site generation, the purchase of carbon-free electricity from the utility provider, and/or any combination thereof such that the foregoing performance standard is achieved. The manner in which the foregoing performance standard is achieved shall be within the applicant's discretion, subject to City's reasonable review and confirmation of same. In the event that on-site electricity generation is pursued for the project, the purchase of renewable electricity from the utility provider shall be required for any remaining demand.

If the applicant decides to utilize the purchase of carbon-free electricity from the utility provider to satisfy all or a portion of this requirement, the applicant shall provide reasonable documentation to the City that the relevant agreement(s) with the utility provider have been executed that require the project to purchase sufficient renewable electricity service to ensure that the applicable performance standard is achieved on an annual basis. The foregoing agreement(s) shall be of sufficient length to ensure that the performance standard is achieved.

MM GHG-2 Implement feasible mitigation measures to reduce GHG emissions to a less-than-significant level

Prior to the issuance of the first certificate of occupancy, the applicant shall provide reasonable documentation to the City of Santa Rosa that will ensure that the project will achieve additional annual GHG emission reductions equivalent to 815 MT CO₂e per year starting in 2030, based on current estimates of the project-related GHG emissions, through the following measure or other such other measure(s) reasonably approved by the City:

- Purchase voluntary carbon credits from a verified GHG emissions credit broker in an amount sufficient to offset operational GHG emissions of approximately 815 MT CO₂e per year over the lifetime of the project starting in the 2030 operational year (or a reduced amount of carbon credits based on implementation of the other measure(s) reasonably approved by the City). Based on a buildout year 2023 and a 30-year project life, the project would be required to purchase a total of 18,745 MT CO₂e over the lifetime of the project if no other measure(s) are implemented to reduce GHG emissions. Copies of the contract(s) that document the purchase of the foregoing carbon credits (or other relevant documentation for any other measure(s) reasonably approved by the City) shall be provided to the City.

Level of Significance After Mitigation

Less than significant impact.

Greenhouse Gas Reduction Plan Consistency

Impact GHG-2: Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.

Significance for this impact is determined by project compliance with the City of Santa Rosa CAP⁹⁸ and the ARB adopted 2017 Climate Change Scoping Plan Update. The Santa Rosa CAP contains a compliance checklist for new development, which is used to determine compliance with the CAP. Demonstration of compliance with the CAP will help to demonstrate that project would not conflict with the State's ability to meet the 2020 GHG targets set forth in the AB 32 Scoping Plan.^{99,100}

City of Santa Rosa Climate Action Plan

Project consistency with Santa Rosa CAP policies and requirements are shown in Table 3.6-6. As shown in the table, the project would be consistent with applicable requirements, which ensures the project would not conflict with the CAP.

The City of Santa Rosa adopted its CAP in June 2012. The CAP identifies policies that will achieve the State-recommended GHG emissions reduction target of 15 percent below 2008 levels by the year 2020 and the locally adopted reduction goal of 25 percent below 1990 levels by 2015. The Santa Rosa CAP provides goals, measures, and associated actions in the topical areas of energy efficiency and conservation, renewable energy, parking and land use management, improved transport options, optimized vehicular travel, waste reduction, recycling and composting, water and wastewater, agriculture and local food, and off-road vehicles and equipment. To ensure that future development projects can demonstrate compliance with the CAP, the City developed and included a New Development Checklist in the CAP. The CAP incorporates flexibility in achieving compliance with its measures. The proposed project's compliance with the New Development Checklist measures is analyzed in Table 3.6-6.

Table 3.6-6: Project Compliance with Santa Rosa CAP

New Development Checklist Measure	Project Compliance
Measure 1.1.1: Comply with CALGreen Tier 1 standards.	Complies. The project would implement required green building strategies to comply with Tier 1 CALGreen standards. The project includes sustainability design features that support the Green Building Strategy. Therefore, the project would be consistent with this measure.
Measure 1.1.3: After 2020, all new development will utilize zero net electricity	Complies. MM GHG-1 requires the project to ensure the applicable performance standard is achieved such that GHG emissions are reduced to

⁹⁸ City of Santa Rosa. 2012. City of Santa Rosa Climate Action Plan. Website: <https://srcity.org/DocumentCenter/View/10762>. Accessed September 15, 2017.

⁹⁹ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 22, 2017.

¹⁰⁰ City of Santa Rosa. 2012. City of Santa Rosa Climate Action Plan. Website: <https://srcity.org/DocumentCenter/View/10762>. Accessed September 15, 2017.

New Development Checklist Measure	Project Compliance
	a less than significant level. This mitigation requires the applicant to commit to on-site generation, the purchase of renewable electricity from the utility provider, and/or any combination thereof to ensure the performance standard is met. Therefore, the project would be consistent with this measure after implementation of MM GHG-1.
Measure 1.3.1: Install real-time energy monitors to track energy use.	Complies. The project would install real-time energy monitors to track energy use, in accordance with PG&E service agreement requirements. Therefore, the project would comply with this measure.
Measure 1.4.2: Comply with the City's tree preservation ordinance.	Complies. The project would be required to comply with the City's tree preservation ordinance during construction and operation. Therefore, the project would comply with this measure.
Measure 1.4.3: Provide public and private trees in compliance with the Zoning Code.	Complies. As discussed under Chapter 2, Project Description, the project would respect the natural features of the project site and integrate trees, creeks, and riparian areas into the site design. Over 75 percent of the trees on-site would remain in place. Therefore, the project would comply with this measure.
Measure 1.5: Install new sidewalks and paving with high solar reflectivity materials.	Conflicts. As previously discussed, the project would comply with CALGreen standards applicable to the project. However, the Elnoka CCRC Landscape Plan, dated May 2017, which is the basis for determining the project design features, does not indicate that the project would include high solar reflectivity materials in new sidewalks and pavement. Therefore, MM GHG-3 would be required to ensure that the project utilizes sidewalk and pavement materials with high solar reflectivity. Therefore, the project would comply with this measure after implementation of MM GHG-3.
Measure 2.1.3: Pre-wire and pre-plumb for solar thermal or PV systems.	Complies. The project would be required to meet applicable Title 24 standards of the California Building Code, which includes requirements for including solar photovoltaic (PV) systems of sufficient size in low-rise residential buildings. Therefore, the project would comply with this measure.
Measure 3.1.2: Support implementation of station plans and corridor plans.	Complies. The project constitutes a land use development project and does not involve station or corridor improvements, nor would the project conflict with future implementation of station

New Development Checklist Measure	Project Compliance
	plans or corridor plans. Therefore, the project would comply with this measure.
Measure 3.2.1: Provide on-site services such as ATMs or dry cleaning to site users.	Complies. The project would constitute the construction and operation of a continuing care retirement community that would be nearby existing land use developments, including Kings Cleaners, located near the corner of Melita Road and Sonoma Highway and also incorporate on-site services for the residents and guests. Therefore, the project would comply with this measure.
Measure 3.2.2: Improve non-vehicular network to promote walking, biking.	Complies. As described in Chapter 2, Project Description, the project would include sidewalks and pathways within the development to tp promote walking. In addition, the applicant has offered to the City that it would agree to construct a publicly accessible bicycle trail parallel to Sonoma Highway, providing direct improvements to the nearby non-vehicular transportation network. Therefore, this project would comply with this measure.
Measure 3.2.3: Support mixed-use, higher-density development near services.	Complies. The project would comply with the applicable density requirements for the land use designation of the project site, and would incorporate a number of on-site services for the benefit of the residents and guests. Moreover, the project would place future residents nearby existing development that would serve the local population and Sonoma County Transit bus stops (30 and 34) to further connect residents with existing development. Therefore, the project would comply with this measure.
Measure 3.3.1: Provide affordable housing near transit.	Complies. The project would introduce a range of new housing opportunities to the nearby retirement community near Sonoma County Transit bus stations 30 and 34, near the intersection of Melita Road and Sonoma Highway. Therefore, the project would comply with this measure.
Measure 3.5.1: Unbundle parking from property cost.	Not Applicable. The project would constitute the construction and operation of a new residential facility for the local retirement community. The project would not involve the development of large parking areas, such as would be experienced at an office park or shopping center. This measure does not apply to the project.
Measure 3.6.1: Install calming features to improve ped/bike experience.	Complies. As described in Chapter 2, Project Description, the project would provide walking paths through the site, and would also employ curvilinear streets to reinforce the need for traffic

New Development Checklist Measure	Project Compliance
	calming within the development. In addition, the applicant has offered to the City that it would agree to construct a publicly accessible bicycle trail parallel to Sonoma Highway, providing direct improvements to the nearby non-vehicular transportation network. Therefore, this project would comply with this measure.
Measure 4.1.1: Implement the Bicycle and Pedestrian Master Plan.	Complies. As described in Chapter 2, Project Description, the project would construct a publicly accessible bicycle trail parallel to Sonoma Highway, providing direct improvements to the nearby non-vehicular transportation network. Therefore, the project would further advance the implementation of the City's Bicycle and Pedestrian Master Plan and would be consistent with this measure.
Measure 4.1.2: Install bicycle parking consistent with regulations.	Complies. The project is required to comply with the Santa Rosa City Code, which requires multifamily residential buildings to provide 1 bicycle parking space per 4 units if units do not have a private garage or private storage space for bike storage (20-36.040), and also with the California Green Building Standards Code (CALGreen) (CCR Title 24, Part 11), which requires buildings with over 10 tenant-occupants to provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2). Therefore, the project would comply with this measure.
Measure 4.1.3: Provide bicycle safety training to residents, employees, motorists.	Complies. The project is required to comply with the Santa Rosa City Code, which requires multifamily residential buildings to provide one bicycle parking space per 4 units if units do not have a private garage or private storage space for bike storage (20-36.040), and also with the California Green Building Standards Code (CALGreen) (CCR Title 24, Part 11), which requires buildings with over 10 tenant-occupants to provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2). While operation of the project does not explicitly involve the training of residents, employees, or motorists for bicycle safety, the project does not preclude the implementation of such programs. Therefore, the project would not conflict with this measure.
Measure 4.2.2: Provide safe spaces to wait for bus arrival.	Complies. The project would be located nearby existing bus stations but would not constitute

New Development Checklist Measure	Project Compliance
	property which is adjacent to these bus stops. Therefore, the project would have access to safe spaces to wait for bus arrivals and would not be required to provide additional waiting spaces on- or off-site. Therefore, the project would comply with this measure.
Measure 4.3.2: Work with large employers to provide rideshare programs.	Not Applicable. The project constitutes a new residential development for the local retirement community and would not constitute a large employer. Therefore, this measure would not apply to the project.
Measure 4.3.3: Consider expanding employee programs promoting transit use.	Complies. The project would be located nearby existing Sonoma County Transit bus stations. In addition, the project would not constitute a large employer. Moreover, while the project does not explicitly include employee programs promoting transit use, the project does not include any features preventing the future implementation of such a program if it deemed necessary at that time. Therefore, the project would comply with this measure.
Measure 4.3.4: Provide awards for employee use of alternative commute options.	Complies. The project would be located nearby existing Sonoma County Transit bus stations. In addition, the project would not constitute a large employer. Moreover, while the project does not explicitly include employee programs promoting alternative commute options, the project does not include any features preventing the future implementation of such a program if it deemed necessary at that time. Therefore, the project would comply with this measure.
Measure 4.3.5: Encourage new employers of 50+ to provide subsidized transit passes.	Not Applicable. As described in Chapter 2, Project Description, the project would include 12 employee housing units; therefore, it is unlikely that the project would employ greater than 50 people at one time. This measure does not apply to the project.
Measure 4.3.7: Provide space for additional park-and-ride lots.	Complies. The project constitutes a new residential development for the local retirement community and is not anticipated to have a large park-and-ride demand. However, the project would be located nearby existing Sonoma County Transit bus stations. The nearby bus stations are approximately 0.15 mile from the project site and would be within walking distance. Therefore, the project would be consistent with this measure.
Measure 4.5.1: Include facilities for employees that promote telecommuting.	Not Applicable. The project constitutes a new residential development for the local retirement community and would require employee

New Development Checklist Measure	Project Compliance
	engagement at a level that would make substantial telecommuting infeasible. This measure would not apply to the project.
Measure 5.1.2: Install electric vehicle charging equipment.	Complies. The project would be required to comply with the Title 24 California Building Code standards, which would require pre-wiring for the installation of electric vehicle charging equipment. Therefore, the project would comply with this measure.
Measure 5.2.1: Provide alternative fuels at new refueling stations.	Not Applicable. The project would not involve the construction or operation of new fueling stations. Therefore, this measure would not apply to the project.
Measure 6.1.3: Increase diversion of construction waste.	Complies. The project would be required to comply with California Green Building Standards Code (CALGreen) (CCR Title 24, Part 11), which requires a minimum 65-percent diversion of construction and demolition waste from landfills. (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]), and all (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing to be reused or recycled (5.408.3). Therefore, the project would comply with this measure.
Measure 7.1.1: 1 Reduce potable water use for outdoor landscaping.	Complies. The project would conform to applicable provisions of the City's Water Efficient Landscape Ordinance (WELo) and the California Green Building Standards Code. Therefore, the project would be consistent with this measure.
Measure 7.1.3: Use water meters which track real-time water use.	Complies. The project would include water meters that would allow employees or residents to track real-time water usage through the City's online web application. Therefore, the project would comply with this measure.
Measure 7.3.2: Meet on-site meter separation requirements in locations with current or future recycled water capabilities.	Complies. The project would implement required green building strategies to comply with Tier 1 CALGreen standards. The project includes sustainability design features that support the Green Building Strategy. Therefore, the project would comply with this measure.
Measure 8.1.3: Establish community gardens and urban farms.	Complies. As discussed under Chapter 2, Project Description, the project would respect the natural features of the project site and integrate trees, creeks, and riparian areas into the site design. Over 75 percent of the trees on-site would remain in place. Therefore, the project site design would preserve vegetated spaces through the project site. Moreover, the project design would not

New Development Checklist Measure	Project Compliance
	preclude the future implementation of community gardens or urban farms. The project would comply with this measure.
Measure 6.1.3: Provide outdoor electrical outlets for charging lawn equipment.	Complies. The project would implement required green building strategies to comply with Tier 1 CALGreen standards. The project includes sustainability design features that support the Green Building Strategy. Therefore, the project would comply with this measure.
Measure 9.1.3: Install low water use landscapes.	Complies. As discussed under Chapter 2, Project Description, the project would respect the natural features of the project site and integrate trees, creeks, and riparian areas into the site design. Over 75 percent of the trees on-site would remain in place. Therefore, the project site design would not introduce substantial areas of new landscaping requiring irrigation. The project would comply with this measure.
Measure 9.2.1: Minimize construction equipment idling time to 5 minutes or less.	Complies. As required by MM AIR-2, signage would be posted at the project site throughout the duration of the construction period to require employees to comply with idling restrictions, and the project would be required to adhere to all applicable laws and regulations restricting idling. Therefore, the project would comply with this measure.
Measure 9.2.2: Maintain construction equipment per manufacturer's specs.	Complies. As required by MM AIR-2, all project-related construction equipment shall be maintained in accordance with manufacturer's specifications. Therefore, the project would comply with this measure.
Measure 9.2.3: Limit GHG construction equipment emissions by using electrified equipment or alternative fuels.	Complies. While the project would not require the use of alternative fuels or electric equipment during construction, it would not preclude project construction to use such energy sources. Therefore, the project would comply with this measure.
Source of policy and project requirements: City of Santa Rosa. 2012. City of Santa Rosa Climate Action Plan. Website: https://srcity.org/DocumentCenter/View/10762 . Accessed March 18, 2021.	

The Santa Rosa CAP was developed to meet the emission reductions necessary to meet AB 32 targets.¹⁰¹ As shown above, the project is consistent with the Santa Rosa CAP.

¹⁰¹ City of Santa Rosa. 2012. City of Santa Rosa Climate Action Plan. Website: <https://srcity.org/DocumentCenter/View/10762>. Accessed September 15, 2017.

SB 32 2017 Scoping Plan Update

The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017.¹⁰² Table 3.6-7 provides an analysis of the proposed project's consistency with the 2017 Scoping Plan Update measures. As shown in Table 3.6-7, these measures are more focused at the Statewide implementation level and are not as applicable to local, project-level developments. Nevertheless, this analysis provides a description of each measure and if the measures are applicable to the proposed project.

Table 3.6-7: Consistency with SB 32 2017 Scoping Plan Update

2017 Scoping Plan Update Reduction Measure	Project Consistency
SB 350: 50 Percent Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33 percent in 2020 to 50 percent in 2030.	Not applicable. This measure would apply to utilities and not to individual development projects. The proposed project would purchase electricity from PG&E subject to the SB 350 Renewable Mandate.
SB 350: Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels.	Not applicable. This measure applies to existing buildings. The three single-family residences on the project site were demolished in the Glass Fire (October 2020); the project would construct a new residential community care facility, pursuant to current energy efficiency standards.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	Not applicable. This is a Statewide measure that cannot be implemented by a project applicant or lead agency. However, vehicles accessing the proposed buildings at the project site would benefit from the standards.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario). Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million Zero Emission Vehicles (ZEVs) on the road by 2030 and increasing numbers of ZEV trucks and buses.	Not applicable. This measure is not applicable to the proposed project; however, vehicles accessing the community care facility at project site would benefit from the increased availability of cleaner technology and fuels.
Sustainable Freight Action Plan. The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	Not applicable. This measure applies to owners and operators of trucks and freight operations. The proposed project is residential in nature (senior community care living) and would not support truck and freight operations. It is expected that deliveries throughout the State would be made with an increasing number of ZEV delivery trucks, including deliveries that would be made to future residences and community care facilities.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	Not applicable. Consistent with BAAQMD Regulation 6, Rule 3, no wood-burning devices are proposed as part of the project. Moreover, the City of Santa Rosa has an all-electric required for new single-family and low-rise residential developments, as adopted under Ordinance No. 2019-019, with which the proposed project would be

¹⁰² California Air Resources Board (ARB). 2017. The 2017 Climate Change Scoping Plan Update, the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. January 17. Website: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Accessed June 1, 2018.

2017 Scoping Plan Update Reduction Measure	Project Consistency
	required to comply. Therefore, the proposed project would not include major sources of black carbon.
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled.	Not applicable. The proposed project does not include the development of a Regional Transportation Plan.
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	Not applicable. The proposed project is not a major source and is not targeted by the cap-and-trade system regulations. Therefore, this measure does not apply to the proposed project.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, State, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor’s Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California’s natural and working land.	Not applicable. The proposed project that would be developed is in a built-up urban area on the urban fringe and would not be considered natural or working lands. As described in Chapter 2, Project Description, the site plan would respect the natural features and slopes of the site and integrate trees, creeks, and riparian areas into the design. The extent, scale, and massing of the buildings would be designed in a way that allows the natural hillside and creek side backdrops to be expressed throughout the development. Given the size and scale of this project, varying architectural themes are proposed. The project would be subject to a design review to ensure the project conforms to community standards.
Source of ARB 2017 Scoping Plan Update Reduction Measures: California Air Resources Board (ARB). 2017. California’s 2017 Climate Change Scoping Plan. November. Website: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf . Accessed December 6, 2019.	

As shown in Table 3.6-7, implementation of the proposed project would not conflict with the reduction measures proposed in SB 32.

Summary

Project consistency with the goals, policies, and actions set forth in the Santa Rosa CAP ensures that the proposed project would not impede or interfere with the City’s goal to achieve the AB 32 State-recommended reduction targets. With implementation of identified mitigation and various project design features, the proposed project is consistent with the Santa Rosa CAP’s applicable local plans, policies, and regulations and would not conflict with the provisions of AB 32, the applicable air quality plan, or any other State or regional plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. Furthermore, as shown in Table 3.6-7, implementation of the proposed project would not conflict with the reduction measures proposed in SB 32. As discussed under Impact GHG-1, the proposed project’s generation of GHG emissions would be considered less than significant after the implementation of MM GHG-1 and MM GHG-2. In addition, the applicable CAP measures identified in Table 3.6-7 are included as part of the proposed project design and/or would be imposed as mitigation measures and would reduce project-related GHG emissions

consistent with the CAP measures. Therefore, the proposed project would comply with applicable plans with objectives of reducing GHG emissions. With implementation of MM GHG-1, this impact would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM GHG-1, GHG-2, AIR-2, and GHG-3 as shown below.

MM GHG-3 High Solar Reflectivity Materials

The project applicant shall prepare updated site plans which clearly illustrate the use of high solar reflectivity materials for new sidewalks and pavement included in the project. The updated site plans shall be provided to the City prior to the issuance of the first building permit and shall illustrate the use of high solar reflectivity materials in proposed sidewalks and pavement to an extent which is satisfactory to the City.

Level of Significance After Mitigation

Less than significant impact.

Wasteful, Inefficient, or Unnecessary Consumption of Energy

Impact GHG-3:	The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
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Impact Analysis

A significant impact would occur if the project would result in the inefficient, wasteful, or unnecessary use of energy.

Construction

During construction, the project would result in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. It is not anticipated that natural gas would be consumed as part of project construction. Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site clearing, grading, paving, and building construction. The use of gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, frontend loaders, forklifts, and cranes is anticipated. Based on CalEEMod estimations used to quantify GHG emissions associated with the project, construction-related vehicle trips would result in approximately 4.4 million vehicle miles traveled, and consume an estimated 207,228 gallons of gasoline and diesel combined during the construction phase (Appendix C). Additionally, on-site construction equipment would consume an estimated 138,194 gallons of diesel fuel (Appendix C).

Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained, which are required as a City standard condition, would result in fuel savings. California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. Additionally, given the cost of fuel, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction.

Other equipment associated with construction could include temporary lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools. Singlewide mobile office trailers, which are commonly used in construction staging areas, generally range in size from 160 square feet to 720 square feet. A typical 720-square-foot office trailer would consume approximately 58,184 kilowatt-hour (kWh) during the approximately 5-year construction phase (Appendix C). Due to the temporary nature of construction and the financial incentives for developers and contractors to use energy-consuming resources in an efficient manner, the construction phase of the project would not result in wasteful, inefficient, and unnecessary consumption of energy. Therefore, the construction-related impacts related to electricity and fuel consumption would be less than significant.

Operation

Electricity and Natural Gas

The operational phase of the project would consume energy as part of building operations and transportation activities. Building operations for the project would involve energy consumption for multiple purposes including, but not limited to, building heating and cooling, refrigeration, lighting, and electronics. Based on CalEEMod energy use estimations, operations would consume approximately 3.21 million kWh of electricity on an annual basis (Appendix C).¹⁰³ As the project would be subject to local regulations, including the reach code passed by the City that requires all new residential construction of three stories and below in the City to be all electric, natural gas consumption is assumed to be zero. The parameters used to arrive at the CalEEMod-provided energy estimates are described in more detail in the Approach to Analysis, while complete CalEEMod output files are contained in Appendix C.

The project would be designed and constructed in accordance with the City's latest adopted energy efficiency standards, which are based on the State's Title 24 energy efficiency standards. Title 24 standards include a broad set of energy conservation requirements that apply to the structural, mechanical, electrical, and plumbing systems in a building. For example, the Title 24 Lighting Power Density requirements define the maximum wattage of lighting that can be used in a building based on its square footage. Title 24 standards, widely regarded as the most advanced energy efficiency standards, would help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in buildings and promote energy conservation. Furthermore, the City of Santa Rosa CAP provides goals, measures, and associated actions related to energy efficiency, energy conservation, and renewable energy. As described in Impact GHG-2, the project would be required to achieve the identified performance standard, which would further promote efficient energy

¹⁰³ Operational energy calculations in Appendix C include all project energy uses, including the condominiums, assisted living care, health club, and parking lot lighting.

consumption. Compliance with these policies would ensure that building energy consumption would not result in the use of energy in a wasteful, inefficient, or unnecessary manner. In addition, the project would be subject to the City's All Electric Reach Ordinance that went into effect January 1, 2020. Furthermore, implementation of MM GHG-1 would require the project to reduce GHG emissions to a less than significant level by on-site generation, the purchase of renewable electricity from the utility provider, and/or any combination thereof. This mitigation measure is necessary to reduce GHG emissions and is not required for energy related impacts; however, implementation of this mitigation measure would further reduce the project's operational electricity use. Therefore, the operational impact related to building electricity and natural gas consumption would be less than significant.

Fuel

Operational energy would also be consumed during vehicle trips associated with the project. Fuel consumption would be primarily related to vehicle use by residents, visitors, and employees associated with the project. Based on energy use estimations contained within the CalEEMod output files used to estimate the project's generation of GHG emissions, project-related vehicle trips would result in approximately 9.5 million vehicle miles traveled and consume an estimated 390,825 gallons of gasoline and diesel combined, annually (CalEEMod output files and energy-specific calculations are included in Appendix C).

The project site is adjacent to Sonoma Highway and approximately 4.9 miles to the east of U.S. 101. The project site is approximately 0.15 mile from the intersection of Sonoma Highway and Melita Road, which hosts westbound and eastbound bus stops for the Sonoma County Transit local bus routes (30 and 34). Bus Routes 30 and 34 would provide future residents, visitors, and employees access via public transit to the communities of Sonoma, Boyes Hot Springs, Fetters Springs, Agua Caliente, El Verano, Glen Ellen, Kenwood, Oakmont, and Santa Rosa on approximately 90-minute intervals daily.¹⁰⁴ These existing transportation facilities in the area would provide future residents, visitors, and employees associated with the project with access to public transportation, thus further reducing fuel consumption demand. For these reasons, operational-related transportation fuel consumption would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources.

Summary

Regulations limiting idling and requiring proper maintenance of construction equipment, as well as the financial incentive to contractors and owners to reduce energy consumption, would prevent wasteful, inefficient, and unnecessary consumption of energy during construction. Compliance with the City's energy efficiency standards and energy conservation CAP measures, as well as project features resulting in reduced operational fuel consumption demand, would prevent wasteful, inefficient, and unnecessary consumption of energy during operation. Therefore, the operational impact related to vehicle fuel consumption would be less than significant.

¹⁰⁴ Sonoma County Transit (SCT). 2020. SCT 30 34 Santa Rosa // Sonoma Valley Daily Service. December 13. Website: https://sctransit.com/wp-content/uploads/2020/12/SCT_Schedule_30-34.pdf. Accessed March 18, 2021.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Conflict with a Plan for Renewable Energy or Energy Efficiency

Impact GHG-4:	The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.
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Impact Analysis

A significant impact would occur if the project would conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The City has developed the Community-wide CAP that contains measures for promoting energy conservation.

Construction

As discussed under Impact ENER-1, the project would result in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. California Code of Regulations Title 13, Sections 2449(d)(3) and 2485, limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. The project would be required to comply with these regulations. Thus, it is anticipated that construction of the proposed plan would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, construction-related energy efficiency and renewable energy standards consistency impacts would be less than significant.

Operation

The project would be served with electricity provided by PG&E.¹⁰⁵ About 80 percent of the electricity that PG&E delivered in 2017 was a combination of renewable and GHG-emissions-free resources.¹⁰⁶ The 2017 power mix included 27 percent non-emitting nuclear generation, 18 percent large hydroelectric facilities, 33 percent eligible renewable resources, such as wind, geothermal, biomass, solar, and small hydro, 20 percent natural gas/other, and 2 percent unspecified power. PG&E is ahead of schedule in meeting the California RPS of 33 percent by 2020 mandate with renewable energy making up 51 percent of its energy portfolio. The project would be subject to the City's All-Electric Reach Code that requires all new residential construction of three stories and below in the City to be all electric; thus, natural gas consumption is assumed to be zero.

¹⁰⁵ Pacific Gas and Electric Company (PG&E). 2019. Exploring Clean Energy Solutions. Website: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page. Accessed February 26, 2019.

¹⁰⁶ Renewable sources included solar, wind, geothermal, biomass, and small hydroelectric sources. GHG-emissions-free sources of energy included nuclear and large hydro. "GHG-emissions-free resources" refers to energy sources other than renewable energy resources that also do not result in GHG emissions, such as non-emitting nuclear and hydroelectric.

Part 11, Chapter 4, of the State's Title 24 energy efficiency standards establishes mandatory measures for residential buildings, including material conservation and resource efficiency. The project would also be required to comply with these mandatory measures. The project would also be required to comply with the CBC requiring proposed apartment buildings to be solar ready. In addition, per CBC, the proposed building would be required to provide wiring that would allow installation of electric vehicle (EV) charging equipment in any private garages or carports.

Compliance with these aforementioned mandatory measures would ensure that the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, operational energy efficiency and renewable energy standards consistency impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.6.5 - Cumulative Impacts**Greenhouse Gas Emissions**

As with the cumulative air quality analysis, the geographic scope of the cumulative GHG analysis is the San Francisco Bay Area Air Basin. As discussed more fully in Section 3.6, Greenhouse Gas Emissions, GHG emission-related impacts are inherently cumulative in nature. The project would emit new GHG emissions, as would the other projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA.

Based on estimated annual operational emissions plus amortized construction emissions, the project GHG emissions in the year 2023 would be below the per capita annual GHG emissions threshold of 4.6 MT CO₂e/SP/year established by the BAAQMD. This would be consistent with the GHG Reduction Goal of BAAQMD's Clean Air Plan. However, project GHG emissions in the year 2030 would exceed the projected efficiency threshold of 2.6 MT CO₂e/SP/year established by the BAAQMD; therefore, implementation of MM GHG-1 and MM GHG-2 would be required to reduce project-generated emissions to meet this threshold. Moreover, the project is consistent with applicable provisions of the City of Santa Rosa's CAP. Other projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA, also would be required to demonstrate whether they exceed greenhouse gas thresholds and are consistent with any applicable CAP, and if necessary, to mitigate their impacts to the extent feasible.

Given the above information, the project, in conjunction with other existing, planned, and probable future projects, with implementation of MM GHG-1, MM GHG-2, and MM GHG-3, would result in a less than significant cumulative impact related to GHG emissions.

Level of Cumulative Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM GHG-1, GHG-2, and GHG-3.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

Energy

Cumulative projects considered as part of this cumulative analysis include the project and the other projects listed in Table 3-1.

Cumulative projects involving new residential construction of three stories and below in the City would be subject to the City's All-Electric Reach Code and would be required to be all electric. Cumulative projects would be required to comply with Title 24 minimum energy efficiency standards. The cumulative buildings would be designed in accordance with Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings as applicable. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), and indoor and outdoor lighting. The incorporation of the Title 24 standards into the design of the cumulative projects, including this project, would ensure that the cumulative projects would not result in the use of energy in a wasteful manner. In addition, as discussed under Impact GHG-3, fuel consumption associated with implementation of the project would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, this project, in conjunction with other existing, planned, and foreseeable future projects, would result in a less than significant cumulative impact related to energy consumption.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

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3.7 - Hazards and Hazardous Materials

3.7.1 - Introduction

This section describes the existing hazards and hazardous materials conditions in the project site and vicinity as well as the relevant regulatory framework. This section also evaluates the potential impacts related to hazards and hazardous materials that could result from implementation of the project. Information included in this section is based, in part, on the Phase I Environmental Site Assessment (Phase I ESA), included as Appendix G. During the Environmental Impact Report (EIR) scoping period, the following comments were received related to hazards and hazardous materials:

- Impacts to emergency vehicle access and emergency services
- Wildfire hazard risk

3.7.2 - Environmental Setting

Fundamentals

Hazards

This description of existing conditions focuses on hazards from fire and overhead power lines, as well as hazardous materials and wastes. A hazard is a situation that poses a level of threat to life, health, property, or the environment. Hazards can be dormant or potential, with only a theoretical risk of harm. However, once a hazard becomes active, it can create an emergency. A hazardous situation that has already occurred is called an incident. Emergency response is action taken in response to an unexpected and dangerous occurrence in an attempt to mitigate its impact on people, structures, or the environment. Emergency situations can range from natural disasters to hazardous-materials problems and transportation incidents.

Hazards Materials and Wastes

Hazardous materials include but are not limited to hazardous materials, hazardous substances, and hazardous wastes, as defined in Section 25501 and Section 25117, respectively, of the California Health and Safety Code. A hazardous material is any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released; and any material that a handler or an administering regulatory agency under Section 25501 has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment. Various properties may cause a substance to be considered hazardous, including:

- Toxicity—causes human health effects;
- Ignitibility—has the ability to burn;
- Corrosivity—causes severe burns or damage to materials; and
- Reactivity—causes explosions or generates toxic gases.

Hazardous waste is any hazardous material that is to be discarded, abandoned, or recycled. The criteria that define a material as hazardous also define a waste as hazardous. Specifically, materials

and waste may be considered hazardous if they are poisonous (toxic); can be ignited by open flame (ignitable); corrode other materials (corrosive); or react violently, explode, or generate vapors when mixed with water (reactive). Soil or groundwater contaminated with hazardous materials above specified regulatory state or federal thresholds is considered hazardous waste if it is removed from a site for disposal. If handled, disposed, or otherwise handled improperly, hazardous materials and hazardous waste can result in public health hazards if released into the soil or groundwater or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer. The California Code of Regulations, Title 22, Sections 66261.20-24 contains technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

The Cortese List is a list of known hazardous materials or hazardous waste facilities that meet one or more of the provisions of Government Code Section 65962.5, including:

- The list of hazardous waste and substances sites from the California Department of Toxic Substances Control (DTSC) EnviroStor database.¹ The project site is not located on the EnviroStor database.
- The list of leaking underground storage tank (LUST) sites by county and fiscal year from the California State Water Resources Control Board (State Water Board) GeoTracker database.² No LUST sites are listed in GeoTracker database for the project site.
- The list of solid waste disposal sites identified by the State Water Board with waste constituents exceeding hazardous waste levels outside the waste management unit.³ No such disposal site exists within Santa Rosa.
- The list of active cease-and-desist orders and cleanup and abatement orders from the State Water Board.⁴ The project site is not on this list.
- The list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, as identified by DTSC.⁵ There are no such facilities on the project site.

¹ California Department of Toxic Substances Control (DTSC). "Cortese" List of DTSC's EnviroStor database list of Hazardous Waste and Substances sites. DTSC's Hazardous Waste and Substances Site List—Site Cleanup (Cortese List). Website: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm.

² California State Water Resources Control Board (State Water Board). "Cortese" List of LUST Sites by County (San Francisco County). Website: https://geotracker.waterboards.ca.gov/sites_by_county.

³ California Environmental Protection Agency (Cal/EPA). "Cortese" List of solid waste disposal sites identified with waste constituents above hazardous waste levels outside the waste management unit. Website: <http://www.calepa.ca.gov/files/2016/10/SiteCleanup-CorteseList-CurrentList.pdf>.

⁴ California Environmental Protection Agency (Cal/EPA). "Cortese" list of State Water Board sites with active Cease and Desist Orders or Cleanup Abatement Orders. Website: <http://www.calepa.ca.gov/files/2016/10/SiteCleanup-CorteseList-CDOCAOList.xlsx>.

⁵ California Environmental Protection Agency (Cal/EPA). "Cortese" list of sites subject to Corrective Action pursuant to Health and Safety Code 25187.5. Website: <https://www.calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/>.

Existing Presence of Hazardous Materials

Santa Rosa and Project Area

Hazards from hazardous materials are typically site-specific, so existing conditions related to fire hazards and the transport, use, and disposal of hazardous materials are discussed below under “project site.”

Hazardous materials in Santa Rosa generally consist primarily of contaminants in soil, groundwater, and sediments originating from past industrial and commercial activities. Hazardous materials such as asbestos and lead are also likely present in building materials and paints in older structures. Some businesses in the area likely use hazardous materials or generate hazardous wastes in industrial uses and research and development (R&D), and would also transport, use, and dispose of hazardous materials. Emergency response in Santa Rosa (including the project site) is coordinated by the Santa Rosa Fire Department (SRFD). The SRFD provides response services to hazardous materials incidents, as well as fire protection and emergency medical services, as discussed further in Section 3.12, Public Services.

Project Site

The project site contains the remains of three single-family homes that were destroyed during the Glass Fire (October 2020), and some areas are used for storing landscape equipment for the Oakmont neighborhood.

No contamination is known to be present in the project site soils, sediments, and associated groundwater table, as further described in the Phase I ESA. No known underground storage tanks (USTs) are present on the project site.

Based on information from local groundwater monitoring reports, groundwater is estimated to be at least 10 feet below the ground surface along the property’s lowest elevations.⁶ The groundwater level is believed to fluctuate seasonally and annually as precipitation cycles affect the water levels within the Santa Rosa Watershed and associated rivers and creeks, including Melita Creek, South Fork of Melita Creek, Oakmont Creek, and Annadel Creek traversing the project site.

The project site is not included on the Cortese hazardous water and substances, LUSTs, solid waste disposal lists; active cease-and-desist orders and cleanup and abatement orders; or hazardous waste facilities subject to corrective action lists.

FirstCarbon Solutions (FCS) personnel conducted a site reconnaissance of the project site on August 7, 2017, as part of the Phase I ESA. Two metal shipping/storage containers, utilized by Land Design Construction & Maintenance, Inc. (a landscaping company), are located in a gravel paved area approximately 100 feet west of the former residence at 440 Brand Road. The containers are used for the secure storage of landscaping equipment including lawn mowers, trimmers, blowers, 3- and 5-gallon containers of gasoline, and other miscellaneous equipment. Two damaged and rusted 55-

⁶ Reese & Associates Consulting Geotechnical Engineers. January 19, 2017. Soil Investigation Report. Appendix F

gallon drums with numerous holes were observed along Oakmont Creek in the southern portion of the project site during the site reconnaissance.

The California Facility Inventory Database (CA FID) and State Water Efficiency and Enhancement Program (SWEEPS) UST databases identified a State Water Board Tank (ID No. 49-000-014089-000001) associated with the property at 6122 Sonoma Highway. However, according to the State Water Board, no records are on file for the project site's address or Tank ID No. 49-000-014089-000001. According to the SRFD, there is one record for the project site associated with the removal and closure of an underground fuel storage tank. Further information on USTs and other hazardous materials associated with the project site can be found in the Phase I ESA (Appendix G) of this Draft EIR.

3.7.3 - Regulatory Framework

Federal

Occupational Health and Safety Act

The Occupational Safety and Health Administration (OSHA) of the United States Department of Labor is responsible for implementing and enforcing federal laws and regulations that address worker health and safety. OSHA requires specific training for hazardous materials users and handlers, provision of information (procedures for personal safety, hazardous-materials storage and handling, and emergency response) to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets from materials manufacturers. Material safety data sheets describe the risks, as well as proper handling and procedures, related to particular hazardous materials. Employee training must include response and remediation procedures for hazardous materials releases and exposures. Construction workers and operational employees at the project site would be subject to these requirements.

Code of Federal Regulations, Titles 29 and 40

Regulations in Code of Federal Regulations Title 29 include requirements to manage and control exposure to lead-based paint and asbestos containing materials. In California, these requirements are implemented by the California Occupational Safety and Health Administration (Cal/OSHA) under California Code of Regulations Title 8 (see further discussion of California Code of Regulations [CCR] Title 8 below). The removal and handling of asbestos-containing materials is governed primarily by United States Environmental Protection Agency (EPA) regulations under California Code of Regulations Title 40. The regulations require that the appropriate State agency be notified before any demolition, or before any renovations, of buildings that could contain asbestos or asbestos-containing materials above a specified threshold.

Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act

The EPA is responsible for implementing and enforcing federal laws and regulations pertaining to hazardous materials. The primary legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and the

Emergency Planning and Community Right-to-Know Act (known as SARA Title III). RCRA and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes and mandate that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment, including detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities. As permitted by RCRA, in 1992 the EPA approved California's program called the Hazardous Waste Control Law (HWCL), administered by the DTSC, to regulate hazardous wastes in California, as discussed further below. The purpose of CERCLA is to identify and clean up chemically contaminated sites that pose a significant environmental health threat, and the Hazard Ranking System is used to determine whether a site should be placed on the National Priorities List for cleanup activities. SARA relates primarily to emergency management of accidental releases and requires annual reporting of continuous emissions and accidental releases of specified compounds that are compiled into a nationwide Toxics Release Inventory. Finally, SARA Title III requires formation of state and local emergency planning committees that are responsible for collecting material handling and transportation data for use as a basis for planning and provision of chemical inventory data to the community at large under the "right-to-know" provision of the law.

Hazardous Materials Transportation Act

Under the Hazardous Materials Transportation Act of 1976, the United States Department of Transportation (USDOT), Office of Hazardous Materials Safety regulates the transportation of hazardous materials on water, rail, highways, through air, or in pipelines, and enforces guidelines created to protect human health and the environment and reduce potential impacts by creating hazardous-material packaging and transportation requirements. It also includes provisions for material classification, packaging, marking, labeling, placarding, and shipping documentation. The USDOT provides hazardous-materials safety training programs and supervises activities involving hazardous materials. In addition, the USDOT develops and recommends regulations governing the multimodal transportation of hazardous materials.

Aboveground Petroleum Storage Act, and Spill Prevention, Control, and Countermeasure Rule

The Aboveground Petroleum Storage Act of 1990, and the Spill Prevention, Control, and Countermeasure (SPCC) Rule (amended 2010) of the Oil Pollution Prevention regulation (40 Code of Federal Regulations [CFR] 112) require the owner or operator of a tank facility with an aggregate storage capacity greater than 1,320 gallons to notify the local Certified Unified Program Agency (CUPA) and prepare an SPCC Plan. The SPCC Plan must identify appropriate spill containment measures and equipment for diverting spills from sensitive areas, and must discuss facility-specific requirements for the storage system, inspections, recordkeeping, security, and training.

Clean Water Act

The Clean Water Act (CWA) (Title 33, § 1251 *et seq.* of the United States Code [33 USC 1251, *et seq.*]) is the major federal legislation governing water quality. The CWA established the basic structure for regulating discharges of pollutants into waters of the United States (not including groundwater). The objective of the act is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." The CWA establishes the basic structure for regulating the discharge of pollutants into waters of the United States. Responsibility for administering the CWA resides with the State

Water Board and nine Regional Water Quality Control Boards (RWQCBs); the North Coast RWQCB administers the CWA in the Santa Rosa area. Section 404 of the CWA regulates temporary and permanent fill and disturbance of waters of the United States, including wetlands. The United States Army Corps of Engineers (USACE) requires that a permit be obtained if a project proposes to place fill in navigable waters and/or to alter waters of the United States below the ordinary high-water mark in non-tidal waters. Section 401 of the CWA requires compliance with State water quality standards for actions within State waters. Compliance with the water quality standards required under Section 401 is a condition for issuance of a Section 404 permit. Under Section 401 of the CWA, every applicant for a permit or license for any activity that may result in a discharge to a water body must obtain a State water quality certification from the RWQCB to demonstrate that the proposed activity would comply with State water quality standards.

State

California Hazardous Waste Control Law

The Hazardous Waste Control Law is the primary hazardous waste statute in the State of California, and implements RCRA as a “cradle-to-grave” waste management system in the State of California for handling hazardous wastes in a manner that protects human health and the environment and would reduce potential resulting impacts. The law specifies that generators have the primary duty to determine whether their waste is hazardous and to ensure proper management. The Hazardous Waste Control Law also establishes criteria for the reuse and recycling of hazardous waste used or reused as raw materials. The law exceeds federal requirements by mandating source reduction planning, and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates a number of types of waste and waste management activities that are not covered by federal law.

California Health and Safety Code

California Health and Safety Code Section 25141 defines hazardous waste as a waste or combination of waste that may:

... because of its quantity, concentration, or physical, chemical, or infection characteristics:

- (1) Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitation-reversible illness.
- (2) Pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of or otherwise managed.

These regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management practices for hazardous wastes; establish permit requirements for hazardous-waste treatment, storage, disposal, and transportation; and identify hazardous waste that commonly would be disposed of in landfills.

Under both RCRA and the HWCL, hazardous-waste manifests must be retained by the generator for a minimum of 3 years. The generator must match copies of the manifests with copies of manifest receipts from the treatment, disposal, or recycling facility.

In accordance with Chapter 6.11 of the California Health and Safety Code (§ 25404, *et seq.*), local regulatory agencies enforce many federal and State regulatory programs through the CUPA program, including:

- Hazardous Materials Business Plans (HMBPs) (Health and Safety Code § 25501, *et seq.*);
- International Fire Code/California Fire Code requirements (California Fire Code § 80.103, as adopted by the State Fire Marshal pursuant to Health and Safety Code § 13143.9);
- USTs (Health and Safety Code § 25280, *et seq.*);
- Aboveground storage tanks (Health and Safety Code § 25270.5(c)); and
- Hazardous-waste-generator requirements (Health and Safety Code § 25100, *et seq.*).

The SRFD is the CUPA for the City of Santa Rosa. As the CUPA, the SRFD enforces State statutes and regulations. The CUPA oversees aboveground petroleum tanks; generation of hazardous materials; storage and treatment; USTs; the accidental-release prevention program; and the Local Oversight Program, which interfaces with the State Water Board and North Coast RWQCB on leaking USTs and UST release sites. An HMBP must be submitted if a facility ever handles any individual hazardous material in an aggregate amount equal to or greater than 55 gallons (liquids), 500 pounds (solids), or 200 cubic feet (gases). An HMBP must include the following:

- Details that include facility floor plans and identify the business conducted at the site;
- An inventory of hazardous materials handled or stored on the site;
- An emergency response plan; and
- A training program in safety procedures and emergency response for new employees who may handle hazardous materials, with an annual refresher course in the same topics for those same employees.

California Code of Regulations, Title 8

Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations. These regulations concern the use of hazardous materials in the workplace, including requirements for employee safety training; availability of safety equipment; accident and illness prevention programs; hazardous-substance exposure warnings; and preparation of emergency action and fire prevention plans.

Cal/OSHA also enforces hazard communication program regulations, including procedures for identifying and labeling hazardous substances, and requires that safety data sheets (formerly known as material safety data sheets) be available for employee information and training programs. Cal/OSHA standards are generally more stringent than federal regulations. Construction workers and operational employees at the project site would be subject to these requirements.

California Code of Regulations Title 8, Section 1529 authorizes Cal/OSHA to implement the survey requirements of Code of Federal Regulations Title 29 relating to asbestos. These federal and State regulations require facilities to take all necessary precautions to protect employees and the public from exposure to asbestos. Workers who conduct asbestos abatement must be trained in accordance with federal and State OSHA requirements. The Bay Area Air Quality Management District (BAAQMD) oversees the removal of regulated asbestos-containing materials (see “Asbestos Demolition, Renovation, and Manufacturing Rule” below).

California Code of Regulations Title 8, Section 1532.1 includes requirements to manage and control exposure to lead-based paint. These regulations cover the demolition, removal, cleanup, transportation, storage, and disposal of lead-containing material. The regulations outline the permissible exposure limit, protective measures, monitoring, and compliance to ensure the safety of construction workers exposed to lead-based material. Loose and peeling lead-based paint must be disposed of as a State and/or federal hazardous waste if the concentration of lead equals or exceeds applicable hazardous waste thresholds. Federal and state OSHA regulations require a supervisor who is certified with respect to identifying existing and predictable lead hazards to oversee air monitoring and other protective measures during demolition activities in areas where lead-based paint may be present. Special protective measures and notification of Cal/OSHA are required for highly hazardous construction tasks related to lead, such as manual demolition, abrasive blasting, welding, cutting, or torch burning of structures, where lead-based paint is present.

California Code of Regulations Title 22, Division 4.5

California Code of Regulations Title 22, Division 4.5, contains the Environmental Health Standards for the Management of Hazardous Waste, which includes California waste identification and classification regulations. California Code of Regulations Title 22, Chapter 11, Article 3, “Soluble Threshold Limits Concentrations/Total Threshold Limits Concentration Regulatory Limits,” identifies the concentrations at which soil is determined to be a California hazardous waste. California’s Universal Waste Rule (22 CCR § 66273) provides an alternative set of management standards in lieu of regulation as hazardous wastes for certain common hazardous wastes, as defined in 22 California Code of Regulations Section 66261.9. Universal wastes include fluorescent lamps, mercury thermostats, and other mercury-containing equipment. Existing structures may contain fluorescent light ballasts that could contain mercury or lead. The Alternative Management Standards for Treated Wood Waste (22 CCR § 67386) were developed by the DTSC to allow for disposal of treated wood as a nonhazardous waste, to simplify and facilitate the safe and economical disposal of such waste. Chemically treated wood can contain elevated levels of hazardous chemicals (e.g., arsenic, chromium, copper, pentachlorophenol, or creosote) that equal or exceed applicable hazardous waste thresholds. The Alternative Management Standards provide for less stringent storage requirements and extended accumulation periods, allow shipments without a hazardous waste manifest and a hazardous waste hauler, and allow disposal at specific nonhazardous waste landfills.

Porter-Cologne Act

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is California’s statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State must adopt water quality policies, plans, and objectives that protect the State’s waters for the use and

enjoyment of the people. Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The RWQCBs are required to formulate and adopt water quality control plans (also known as basin plans) for all areas of the region and establish water quality objectives in the plans. The Porter-Cologne Act sets forth the obligations of the State Water Board and RWQCBs to adopt and periodically update water quality control plans that recognize and reflect the differences in existing water quality, the beneficial uses of the region's groundwater and surface water, and local water quality conditions and problems. It also authorizes the State Water Board and RWQCBs to issue and enforce waste discharge requirements and to implement programs for controlling pollution in State waters. Finally, the Porter-Cologne Act also authorizes the State Water Board and RWQCBs to oversee site investigation and cleanup for unauthorized releases of pollutants to soils and groundwater and in some cases to surface waters or sediments.

California Emergency Response Plan

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Responding to hazardous-materials incidents is one part of this plan. The plan is administered by the California Governor's Office of Emergency Services, which coordinates the responses of other agencies. The Santa Rosa Department of Emergency Management coordinates responses to large-scale emergencies in the City, such as hazardous waste spills and significant wildfire events. Emergency response team members respond and work with local fire and police agencies, emergency medical providers, the California Highway Patrol (CHP), CAL FIRE, California Department of Fish and Wildlife, and California Department of Transportation (Caltrans).

California Department of Forestry and Fire Protection

CAL FIRE has mapped fire threat potential throughout California. CAL FIRE maps fire threat based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The threat levels include no fire threat, moderate, high, and very high fire threat. Further, the maps designate the City of Santa Rosa as the LRA of the project site. Additionally, CAL FIRE produced a 2010 Strategic Fire Plan for California, which contains goals, objectives, and policies to prepare for and mitigate the effects of fire on California's natural and built environments. CAL FIRE's Office of the State Fire Marshal provides oversight of enforcement of the California Fire Code as well as overseeing hazardous liquid pipeline safety.

California Building Code

The State of California provided a minimum standard for building design through the California Building Standards Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations. The CBC is based on the most recent International Building Code, but has been modified for California conditions. It is generally adopted on a jurisdiction by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local City and county building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all new high-rise buildings and residential buildings; the establishment of fire resistance standards for fire doors, building material; and particular types of construction.

California Public Resources Code

The California Public Resources Code includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors⁷ on construction equipment that use an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on-site for various types of work in fire-prone areas.

These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (PRC § 4442);
- Appropriate fire suppression equipment would be maintained during the highest fire danger period—from April 1 to December 1 (PRC §4428);
- On days when a burning permit is required, flammable materials would be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor would maintain the appropriate fire suppression equipment (PRC §4427); and
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines would not be used within 25 feet of any flammable materials (PRC §4431).

Regional**Asbestos Demolition, Renovation and Manufacturing Rule**

The removal of asbestos-containing building materials is subject to the limitations of BAAQMD Regulation 11, Rule 2, “Hazardous Materials; Asbestos Demolition, Renovation and Manufacturing.” This rule prohibits visible emissions to outside air from any operation involving the demolition of any structure containing asbestos, and sets out requirements for demolition of such structures, including a pre-demolition survey conducted by a certified professional. All friable (i.e., crushable by hand) asbestos-containing materials or non-friable asbestos-containing materials that may be damaged must be abated before demolition in accordance with applicable requirements. Friable asbestos-containing materials must be disposed of as asbestos waste at an approved facility. Non-friable asbestos-containing materials may be disposed of as nonhazardous waste at landfills that accept such wastes.

Association of Bay Area Governments Hazard Mitigation Plan

The Association of Bay Area Government (ABAG) multijurisdictional Local Hazard Mitigation Plan (LHMP) for the San Francisco Bay Area was updated in 2010 in partnership with the Bay Conservation and Development Commission’s Adapting to Rising Tides Program to support local governments in the regional plan for existing and future hazards of climate change. This detailed 5-year plan identifies potential natural and human-made hazards, assesses their potential risks, and includes mitigation methods to reduce risks. The potential hazards identified in the plan include

⁷ A spark arrestor is a device that prohibits exhaust gases from an internal combustion engine from passing through the impeller blades where they could cause a spark. A carbon trap is commonly used to retain carbon particles from the exhaust.

earthquakes and liquefaction, wildfires, floods, drought, solar storms, dam or levee failure, disease outbreak, freezes, wind, heat, thunder and lightning storms, siltation, tornadoes, hazardous materials, slope failure and mudflows, and other hazards. Similarly, mitigation measures include hazard event planning, emergency preparedness coordination, education, facility upgrades, and monitoring actions.

Local

City of Santa Rosa General Plan 2035

The City of Santa Rosa General Plan 2035 establishes the following goals and policies related to hazards and hazardous materials that are relevant to this analysis:

Hazardous Materials

- **NS-F: Minimize dangers from hazardous materials**
- **NS-F-1:** Require remediation and cleanup, and evaluate risk prior to reuse, in identified areas where hazardous materials and petroleum products have impacted soil or groundwater.
- **NS-F-2:** Require that hazardous materials used in business and industry are transported, handled, and stored in accordance with applicable federal, state, and local regulations.
- **NS-F-4:** Where applicable, identify and regulate appropriate regional and local routes for transportation of hazardous materials and hazardous waste. Require that fire and emergency personnel can easily access these routes for response to spill incidences.
- **NS-F-6:** Generate and support public awareness and participation in household waste management, control, and recycling through county programs including the Sonoma County Household Hazardous Waste Management Plan.

Wildland fires

- **NS-G: Minimize the potential for wildland fires.**
- **NS-G-1:** Require proposed developments in the Wildland Urban Interface zone, including the Very High Fire Hazard Severity zone, to investigate a site's vulnerability to fire and to minimize risk accordingly.
- **NS-G-2:** Require new development in Wildland Urban Interface areas to utilize fire resistant building materials. Require the use of on-site fire suppression systems, including enhanced automatic sprinklers systems, smoke and/or detection systems, buffers and fuel breaks, and fire resistant landscaping. Require development and ongoing implementation of vegetation management plans to reduce the risk of wildland fires and to help prevent fires from spreading.
- **NS-G-3:** Prohibit untreated wood shake roofs in Wildland Urban Interface areas.
- **NS-G-4:** Continue monitoring water fire-flow capabilities throughout the city and improving water availability at any locations having flows considered inadequate for fire protection.
- **NS-G-5:** Require detailed fire prevention and control measures, including community fuel breaks, for development projects in the Wildland-Urban Interface, including very high fire hazard severity zones.

- **NS-G-6:** Minimize single-access residential neighborhoods in development areas near open space, and provide adequate access for fire and other emergency response personnel.

Santa Rosa City Code

Chapter 18.44 of the Santa Rosa City Code establishes requirements for projects to comply with the California Fire Code. It also identifies the City's amendments to the Fire Code to reflect local conditions. Regulations specific to the storage of hazardous materials are included in Chapter 18.44, along with permit requirements. Section 18.44-5308 directs that the Fire Code Official shall publish standards providing requirements for facilities that use, handle, or store materials that are or may become toxic gases. Chapter 11-32, Hazardous Materials, establishes requirements for the transport of hazardous materials.

City of Santa Rosa Emergency Operations Plan

The Draft Emergency Operations Plan identifies the City's emergency planning, organization, and response policies and procedures. The plan also addresses the integration and coordination with other governmental levels and special districts as required. This plan is based on the principles and functions of the California-required Standardized Emergency Management System (SEMS), which is based on the FIRESCOPE Incident Command System and identifies how the City of Santa Rosa fits in the overall state SEMS structure. In addition, the plan incorporates the additional required elements of the National Incident Management System as directed by Homeland Security Presidential Directive 5, issued February 28, 2003.

Santa Rosa Hazardous Waste Generator, Industrial Waste, Medical Waste, and Stormwater Management Programs

As previously mentioned, hazardous materials and contaminants are locally regulated through the SRFD, which operates as the respective CUPA. CUPA programs include the HMBP Program, Hazardous Waste Program, UST Program, Accidental Release Program, Above-Ground Storage Tank Program, and enforcement of the portions of the California Fire Code that address hazardous materials. General program requirements include inspections of businesses and review of permit conditions and procedures for the handling, storage, use, and disposal of hazardous materials. The HMBP required of each business is used to keep track of businesses' use of hazardous materials in accordance with both state and federal laws. The Hazardous Waste Generator Program is based on the Hazardous Waste Control Law found in California Health and Safety Code Division 20, Chapter 6.5, and regulations found in the California Code of Regulations, Title 22, Division 4.5.

The SRFD also administers the local oversight program, which oversees the investigation and cleanup of fuel releases from underground storage tanks. Sites are entered into the local oversight program when a release from an underground tank is reported. A similar program provides for the permitting, monitoring, and surveillance of septic tanks, chemical toilets, and vaults, as well as abandonment and disposal of septic waste in Sonoma County. The SRFD requires a Phase I ESA for subdivisions, multi-family residential, and commercial developments. The SRFD also requires a Phase I ESA for properties that have a prior CUPA history, a soil or groundwater monitoring plan from the North Coast RWQCB, or any case history with the DTSC. The purpose of the Phase I ESA is to identify recognized environmental conditions (RECs) that indicate the presence or likely presence of

any hazardous substances or petroleum products that indicate an existing release, a past release, or a material threat of a release.

The Santa Rosa Industrial Waste Program enforces regulations issued to businesses that discharge wastewater into the Santa Rosa Subregional Water Reclamation System. The program consists of inspections, monitoring, and permitting of businesses to ensure their compliance. First responders to hazardous material emergencies could be the SRFD or members of the SRFD's Hazardous Materials Response Team. State law requires that first responders to a release of hazardous materials have a minimum 40 hours of training in accordance with the OSHA Hazardous Waste Operations and Emergency Response standard.

Enforcement of environmental regulations depends on the nature of the violation. Both the Santa Rosa Police Department and the SRFD provide enforcement. Both departments have specific training in environmental crimes and work closely with other regulatory agencies and departments such as the Utilities Department's Industrial Waste Section, Planning and Economic Development building inspectors, and the Public Works Department's Storm Water Management Program to ensure environmental regulations are followed. The Sonoma County Environmental Health Division is charged with administering the State of California's Medical Waste Program. Regulation of potentially hazardous pesticide and herbicides is under the jurisdiction of the Sonoma County Agricultural Commissioner. The City's Water Department administers the Storm Water Management Program that is designed to reduce urban runoff from polluting local waterways through use of Best Management Practices (BMPs), Low Impact Development (LID), monitoring, and other techniques.

City of Santa Rosa Local Hazard Mitigation Plan

The LHMP identifies the capabilities, resources, information, strategies for risk reduction, and critical facilities, as well as providing guidance for and coordination of mitigation actions, all of which are important for the City to reduce its vulnerability to disasters. The City of Santa Rosa has developed this plan to ensure that hazard profiles reflect current conditions and best available science, that policies in the plan are consistent with current City standards and/or other relevant federal, State, or regional regulations, and that the City has an updated plan consistent with Federal Emergency Management Agency (FEMA) requirements. The LHMP provides a set of strategies to reduce vulnerability to disaster through education and outreach programs, the development of partnerships, and implementation of actions to reduce the impacts from a disaster.

The City of Santa Rosa Local Hazard Mitigation Plan:

- Establishes a basis for coordination and collaboration among participating private entities and public agencies, and key stakeholders;
- Identifies and prioritizes future mitigation projects; and
- Meets the requirements of federal assistance grant programs, including FEMA's Hazard Mitigation Grant Program and Pre-Disaster Mitigation funding.
- Works in conjunction with other plans, including the City's General Plan 2035.

3.7.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G, to determine whether impacts related to hazards and hazardous materials have significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (This question is not discussed in this section; instead, refer to Chapter 4, Effects Found not to be Significant, for the respective analysis.)
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- e) Be 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 and result in a safety hazard for people residing or working the project area? (This question is not discussed in this section; instead, refer to Chapter 4, Effects Found not to be Significant, for the respective analysis.)
- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- g) Expose persons or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Approach to Analysis

This evaluation focuses on whether the project would result in changes to the physical environment that would cause or exacerbate adverse effects related to the use, transportation, disposal, accidental release, or emission of hazardous materials. The evaluation also includes a determination of whether the changes to the physical environment caused by the project would impair or physically interfere with emergency response plans, or expose people or structures to increased wildfire hazards. For the evaluation of potential construction-related and operational impacts from existing hazardous materials in project site soils, sediments, groundwater, surface water, and structures, the results of environmental sampling are compared to identified screening levels. The following analysis is based, in part, on information provided by the Santa Rosa General Plan 2035, the project-site-specific Phase I ESA, and State of California websites.

Additional analyses regarding hazards and health risk related to emissions of toxic air contaminants are addressed in Section 3.2, Air Quality. Flooding and inundation hazards, including those related to

erosion and mudflow, are addressed in Section 3.8, Hydrology and Water Quality. Traffic-related safety hazards are addressed in Section 3.14, Transportation and Traffic. Other geotechnical-related safety hazards, such as earthquakes, are addressed in Section 3.5, Geology and Soils.

Impact Evaluation

Routine Transport, Use or Disposal of Hazardous Materials

Impact HAZ-1:	The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
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A significant impact would occur if project construction or operation would create a significant hazard to the public or the environment as a result of the routine transport, use, or dispose of hazardous materials.

Construction

During construction, the project would be expected to involve the transport, use, and disposal of typical hazardous materials, such as diesel fuels, aerosols, and paints. However, the duration of these actions would only be temporary and limited to the period of construction. Furthermore, the project would be subject to applicable provisions of the Hazardous Materials Transport Act, California Public Resources Code, and other State and local laws and regulations that would reduce and limit the associated risks. Additionally, site reconnaissance identified the presence of potentially hazardous materials or conditions that would be required to be addressed on-site prior to the commencement of project construction.

Two rusted, damaged, and empty 55-gallon drums were found along Oakmont Creek with no cap or label. FCS was unable to determine the contents of the drums; therefore, it is possible that the drums formerly contained hazardous materials that could have been released into the soils beneath the drums. Prior to project development, the 55-gallon drums would need to be removed in accordance with all applicable federal, State, and local laws and regulations. Implementation of Mitigation Measure (MM) HAZ-1a as recommended by the Phase I ESA would require the applicant to conduct soil sampling and analysis in the area around the 55-gallon drums prior to development and implement recommended measures, which would reduce potentially significant impacts to a less-than-significant level.

On the former site of the home at 440 Brand Road (refer to Exhibit 2-7) there were several areas that were used as waste tire storage areas or former hazardous materials storage areas that stored household paints and automotive fluids and wastes. All of these were destroyed in the Glass Fire. The clean-up of the site post Glass Fire is not a part of this project and will be completed before project construction commences. However, the project would be required to comply with the California Hazardous Waste Control Law, General Plan 2035 Policy NS-F-1, and all other applicable government regulations to ensure that any hazardous waste is properly removed and any impacted areas are remediated in accordance with applicable laws and regulations prior to construction of the project.

In 1916 aerial photographs, the Southern Pacific Railroad was depicted bordering portions of the project site's southern property line. Railroad lines have been historically associated with oil storage and pipelines, and railroad companies have been known to spray oil adjacent to tracks for weed/vegetative growth suppression. During site reconnaissance, no significant surface staining was detected in the former railroad line areas. Nevertheless, implementation of MM HAZ-1b would require the applicant to cease construction immediately in the affected area and contact the City immediately if, during development activities, any subsurface indications in the affected area of prior railroad land uses are discovered, in order to ensure that potentially significant impacts are reduced to a less-than-significant level.

Based on a historical aerial photograph records review obtained for the Phase I ESA, the northern portion of the project site was occupied by orchard land uses from at least 1942 until at least 1968. Because of its previous use as orchard land, there is a potential that residual agricultural chemicals are present within the on-site soils that could cause a potentially significant impact. Implementation of MM HAZ-1c requires the applicant to complete soil sampling and analysis prior to development, and to implement recommended measures if needed, which would ensure that construction-related potentially significant impacts with regard to creation of public hazards as a result of the routine transport, use, or dispose of hazardous materials would be reduced to a less than significant level.

Operation

Once operational, the project would require the use and storage of typical pesticides and common household cleaning supplies for landscaping and maintenance. Medical waste may also be generated on-site in the care facility. However, hazardous substances would not be used, stored, or transported in quantities sufficient enough to create a significant hazard to the public or the environment. Further, compliance with applicable plans, laws and regulations, including, among others, the Sonoma County Hazardous Materials and Waste Management Plan and the California Medical Waste Program, would minimize associated risks to the maximum extent practicable. Therefore, the project would result in a less than significant operational impact with mitigation with regard to creation of public or environmental hazards as a result of the routine transport, use, or dispose of hazardous materials.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM HAZ-1a Prior to issuance of site grading permits, the applicant shall conduct soil sampling and testing in the vicinity of the previously discovered 55-gallon drums in order to determine if hazardous chemicals above action levels are present. If, as a result of the sampling/testing, hazardous substances in soils are detected above action levels, the applicant shall, prior to issuance of site grading permit, conduct associated remediation in accordance with applicable standards and requirements of the Santa Rosa Fire Department (SRFD) as designated by the Certified Unified Program Agency (CUPA), prior to grading in any affected areas.

- MM HAZ-1b** Prior to issuance of grading permits, the applicant shall conduct soil sampling and testing in the vicinity of the discovered railroad land uses in order to determine if hazardous chemicals above action levels are present. If determined necessary, associated remediation shall be conducted in accordance with applicable standards and requirements of the Santa Rosa Fire Department (SRFD) as designated by the Certified Unified Program Agency (CUPA).
- MM HAZ-1c** Prior to the issuance of grading permits for the northern portion of the site, the applicant shall conduct soil sampling and testing for residual pesticides in on-site soils to determine whether contaminated soils above action levels are present due to historic agricultural uses on the site. If as a result of the sampling/testing pesticides or insecticides are detected above action levels, the applicant shall conduct remediation in the affected area(s) in accordance with applicable standards and requirements of the Santa Rosa Fire Department (SRFD) as designated by the Certified Unified Program Agency (CUPA).

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Risk of Upset

Impact HAZ-2: **The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.**

The project proposes up to 676 residential units and related improvements and amenities as part of a continuing care retirement community. This project would not be expected to include industrial or retail development that involves hazardous materials such as gas stations, paint stores, or auto parts stores. Unlike industrial or retail facilities, this residential development does not involve the type or quantity of hazardous materials that could pose a significant environmental accident.

As described above, small quantities typical of hazardous materials would be used on-site during construction and operation of the project, but not in sufficient quantities to create significant hazard in the unlikely event of upset or accident. If the project site stores, handles, or dispenses materials in excess of State threshold quantities, compliance with regulations would require the SRFD CUPA Manager to be contacted for verification of program compliance and proper permitting. General Plan 2035 Policies NS-F-1 through NS-F-6, for which the project would be required to comply, are designed to reduce the risk from accidental release of hazardous materials. Additionally, transport of hazardous materials would be restricted to designated regional and local routes, thereby minimizing the risks associated with upset and accident during transport. Specifically, compliance with General Plan 2035 Policy NS-F-4 would ensure any hazardous materials are transported on appropriate regional and local routes. Moreover, the project would be required to adhere to all other applicable laws and regulations governing transport of hazardous materials. Therefore, the project would not present a significant hazard to the public or the environment involving the release of hazardous materials into the environment.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Government Code Section 65962.5 Sites

Impact HAZ-3: The proposed project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.

A regulatory records review of California Environmental Protection Agency (Cal/EPA), State Water Board, CA FID UST and State Water Efficiency and Enhancement Program (SWEEP), Hazardous Waste Information System (HAZNET), DTSC EnviroStor, BAAQMD, and GeoTracker regulated facilities databases for files related to possible RECs was conducted for the project site. The results are compiled in the Phase I ESA Report included as Appendix G. According to the Phase I ESA report, no records of open-case facilities located on the project site are listed in the State Water Board GeoTracker database. A FirstSearch Government Database Report (included in Appendix G) identifies two “Orphan Sites” that cannot be mapped or plotted because of errors or missing information in the regulatory records, but a regulatory records review concluded that neither would represent an environmental condition for the project site. In addition, CA FID and SWEEP UST databases identified a 350-gallon tank (State Water Board Tank ID No. 49-000-014089-000001) that was removed from an area located west of a residence formerly located at 6122 Sonoma Highway on the project site, and SRFD records show that the underground storage tank closure is complete, with no existing adverse environmental impact on the project site. Furthermore, per communication with and confirmation from the Sonoma County Assessor’s Office, Sonoma County Department of Environmental Health Services, and SRFD, no records of recognized or potential RECs are on file for the project site. Therefore, impacts related to potential location on a hazardous materials site and, thus, creating a hazard to the public or environment would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Emergency Response and Evacuation

Impact HAZ-4: **The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

The City of Santa Rosa LHMP identifies ways to mitigate impacts in Santa Rosa during a disaster. The LHMP designates emergency evacuation routes, including U.S. Route 101 and Sonoma Highway.⁸ Implementation of the LHMP could reduce potential impacts the project could have during a disaster. Consistent with the adopted emergency response plan, the Santa Rosa Department of Emergency Management would coordinate emergency responses in the City and work with local fire and police agencies, emergency medical providers, CHP, CAL FIRE, California Department of Fish and Wildlife, and Caltrans. In addition, the City would maintain its Emergency Operations Plan per General Plan 2035 Policy NS-A-1. However, the project would result in higher traffic volumes on Sonoma Highway, including in the event of a disaster requiring emergency evacuation. Furthermore, the project could require relocation of a large elderly population associated with the proposed care facility during a disaster, a potentially significant impact.

As a result, the project would include MM HAZ-4, which would ensure the project applicant prepare an emergency evacuation plan with approval from the SRFD. The evacuation plan would ensure that the project is adequately prepared to respond to a large-scale emergency, such as a wildfire, and prevent interference with an emergency response plan. As indicated in Section 3.12, Public Services, Impact PUB-1, and PUB-2, the project would be adequately served by police and fire services, including respective evacuation and emergency vehicle access. Additionally, the project would not create a permanent increase in population unaccounted for in the Santa Rosa General Plan 2035 that could lead to overwhelming call for emergency services. Further, the project would be designed in accordance with the City's standards to accommodate emergency vehicle access by providing two points of access to the project site, one access point via Sonoma Highway and one via Melita Road, that would be available to emergency vehicles. In addition, with the City's update to the SRFD long-range plan assessing the need for an additional fire station and adherence to the City's LHMP and Emergency Operation Plan, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant with mitigation incorporated.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM HAZ-4 Emergency Evacuation Plan

Implement WILD-1

Level of Significance After Mitigation

Less than significant impact.

⁸ City of Santa Rosa. 2017. Local Hazard Mitigation Plan. January. Page 19.

Wildland Fires

Impact HAZ-5: The proposed project could expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

The project site is located in the WUI Fire Area as delineated by the City, where wildlands are located both in and adjacent to the project site.⁹ As discussed previously under the Environmental Setting, the CAL FIRE LRA Fire Hazard Map for Sonoma County shows that the project site is located adjacent to a Moderate Fire Severity Zone, and that zone is located across Sonoma Highway approximately 1,000 feet to the southeast of the northeast corner of the project site.¹⁰ Furthermore, both the LRA and the SRA maps identify a very high fire hazard area that is located within approximately 0.25-mile of the project site's southeast corner.¹¹ As a result, the project site is located in an area that could expose people of structures to significant risk of loss, injury, or death involving wildland fires.

In light of the wildfires that occur throughout Northern California, new projects in the City of Santa Rosa need to be evaluated for future risk from wildfires. The 2017 Nuns Fire burned significant portions of nearby Trione-Annadel State Park and parts of Hood Mountain Regional Park, and the 2020 Glass Fire destroyed all existing structures on the project site.

As discussed in Section 3.12, Public Services, the SRFD provides fire protection services. Services include responses to structure, wildland, and other fire-related incidents. The SRFD conducts fire inspections of commercial and residential structures, and may inspect buildings for unsafe conditions or fire code violations in response to citizen concerns. Within the SRFD, the Fire Prevention Bureau is responsible for reviewing, updating, and enforcing fire-related codes and ordinances.¹² The Bureau is staffed by a Fire Marshal, two Assistant Fire Marshals, five Fire Inspectors, a Plan Checker, and supporting administrative personnel. Activities include code compliance inspections and enforcement, CUPA program implementation, public education programs, vegetation management inspections, fire investigations, plan review, construction inspections, and administering and coordinating the City's annual Weed Abatement Inspection Program throughout the City. Weed abatement is the actual removal of combustible growth and material from property.¹³

The City has developed new measures and continues to implement measures that address fire hazards and minimize the potential for wildfires. For example, the City's Weed Abatement Inspection Program applies to undeveloped and developed parcels over 0.5 acres in size containing over 0.5 acres of unimproved land. Thus, the City would require the project to comply with the Weed Abatement Inspection Program.

The property owner or a contractor for the project would be required to comply with applicable provisions of the Weed Abatement Inspection Program. During project operation and consistent

⁹ City of Santa Rosa. Santa Rosa Fire Department (SRFD). Wildland Urban Interface Fire Area Map. Website: <https://srcity.org/DocumentCenter/View/4775>. Accessed August 14, 2018.

¹⁰ California Department of Forestry and Fire Protection (CAL FIRE). 2007. Sonoma County Fire Hazard Severity Zones in SRA. November 7.

¹¹ California Department of Forestry and Fire Protection (CAL FIRE). 2008. Very High Fire Hazard Severity Zones in LRA, Santa Rosa.

¹² City of Santa Rosa. Santa Rosa Fire Department (SRFD), Fire Prevention Bureau. Website: <https://srcity.org/538/Prevention>. Accessed August 14, 2018.

¹³ City of Santa Rosa. Santa Rosa Fire Department (SRFD). Weed Abatement Program. Website: <https://srcity.org/595/Weed-Abatement>. Accessed August 14, 2018.

with the SRFP's standard protocol, the SRFD would conduct field inspections at the project site that focus on fire safety as well as other general public safety concerns. If the project site is inspected and found not to be in compliance, a Weed Abatement Violation Notice would be sent to the property owner. The notice would contain a list of violations and a date for the next inspection. If the project is again found not in compliance after having received an Abatement Violation notice, the SRFD would hire a contractor to perform the needed work. The property owner would be responsible for all costs incurred including the initial inspection fees (including the investigation, inspection, preparation, service, and/or publication or administrative notices and other related clerical costs performed by the SRFD).

The project would also be required to comply with applicable provisions of the California Fire Code with regard to access, water supply, and building materials consistent with the CBC. Public Resources Code 4291 further requires the project to maintain, at all times, a minimum of 30 feet of defensible space in every direction from structures adjacent to forest, brush, grass, or lands covered with flammable material. In addition, new construction would comply with applicable requirements as set forth in Chapter 7A of the most current adopted CBC and with General Plan 2035 Policy NS-G with the goal of reducing risk due to wildland fire.

Furthermore, the project would comply with Policies General Plan 2035 NS-G-1 through NS-G-6 with use of fire-resistant materials in structural materials and fire suppression systems such as indoor sprinkler systems as well as provision of adequate emergency access with two vehicular access points to the project site. As such, the proposed design would incorporate fire safety features and comply with the applicable fire safety provisions of the CBC, thereby reducing the risk of loss, injury, or death involving wildland fires.

As indicated in Section 3.12, Public Services, the project would be located in the eastern portion of the City where service response time standards are not currently being met. However, the City is currently updating the SRFD long-range plan that evaluates service demands and assesses the need for an additional fire station. In addition, the project would provide emergency access points at the project site, payment of applicable fees consistent with the City's Special Tax Financing Code as required by Mitigation Measure PUB-1 and LHMP, implement weed and vegetation management programs, and adhere to the most recently adopted State and City fire codes. Therefore, impacts related to exposure of people or structures to a substantial risk of loss, injury, or death involving wildland fires would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.7.5 - Cumulative Impacts

The geographic scope of the cumulative hazards, hazardous materials and wildfire analysis is the project vicinity. Adverse effects of hazards, hazardous materials and wildfire tend to be localized; therefore, the area near the project site would be most affected by project activities. Hazards and hazardous materials are extensively regulated at the federal, State, and local levels. There are no land uses in the vicinity of the project site that are known to utilize large quantities of hazardous materials or involve significant hazardous activities.

The project site contains two rusted, damaged, and empty 55-gallon drums, the contents of which could not be determined. Therefore, there is a potential that the drums contained hazardous materials that could have been released into the soil beneath the drums. Project-level mitigation would require the testing of this soil and remediation if hazardous substances are detected above action levels. Other cumulative projects in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, may have a similar situation and would be expected to implement similar mitigation. As such, the project, in conjunction with other cumulative projects, would result in a less than significant cumulative impact associated with the potential release of hazardous substances from on-site drums or other containers.

Other cumulative projects in Table 3-1, as well as other relevant cumulative projects as required by CEQA, may also require demolition of buildings containing hazardous materials and would be expected to implement similar mitigation. As such, the project, in conjunction with other cumulative projects, would result in a less than significant cumulative impact associated with hazardous building materials.

Historical aerial photographs indicated that previous land uses on the project site included Southern Pacific railroad tracks and orchards. Both land uses could have left residual hazardous material contamination on the project site, including petroleum products and agricultural chemicals. Project-level mitigation would require development activity be halted in the affected area(s) and the City notified if indications of petroleum products or facilities are found and would require soil testing for agricultural chemicals and remediation if any hazardous substances are detected above action levels. Other cumulative projects in Table 3-1, as well as other relevant cumulative projects as required by CEQA, may have similar hazardous materials concerns and would be expected to implement similar mitigation. As such, the project, in conjunction with other projects, would result in a less than significant cumulative impact associated with potential on-site contamination from previous land uses.

The cumulative projects are located in various fire hazard severity zones and in areas with recent proximity to the 2017 Northern California wildfires. However, with the City's update to the SRFD long-range plan assessing the need for an additional fire station, provision of adequate emergency access points at the various cumulative project sites, adherence to the City's Special Tax Financing Code, LHMP, and Emergency Operation Plan, and adherence to the most recent State and City fire codes, cumulative impacts related to interference with an emergency response plan or exposure of people or structures to a significant in risk of loss, injury, or death involving wildland fires would be less than significant.

Given the above information, the project, in conjunction with other existing, planned, and probable future projects, would result in a less than significant cumulative significant impact related to hazards, hazardous materials and wildfires.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

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3.8 - Hydrology and Water Quality

3.8.1 - Introduction

This section describes existing hydrology and water quality conditions in the project site and vicinity as well as the relevant regulatory framework. This section also evaluates the potential impacts related to hydrology and water quality that could result from implementation of the project. Information included in this section is based, in part, on information contained in the 2015 Santa Rosa Urban Water Management Plan (UWMP), Santa Rosa Citywide Creek Master Plan, and the Santa Rosa General Plan 2035 and associated Environmental Impact Report (EIR). During the EIR scoping period, the following comments were received related to the project's hydrologic impacts:

- Impacts to on-site creeks
- Stormwater impacts to the Trione-Annadel State Park
- Drainage and local flooding impacts

3.8.2 - Environmental Setting

Surface Hydrology

Santa Rosa Watershed

The Santa Rosa area is located within the Laguna de Santa Rosa Watershed, which originates at Hood Mountain in the Mayacamas Mountains to the east and discharges to Laguna de Santa Rosa, a large wetland complex downstream of the Santa Rosa urban area. Santa Rosa Creek is the main surface water stream in this watershed, discharging into Laguna de Santa Rosa, which eventually discharges its waters to the Russian River, which ultimately discharges to the Pacific Ocean. The City of Santa Rosa receives a mean annual precipitation of approximately 30 inches in the lower elevations and about 45 inches in the higher elevations with such precipitation either percolating into the ground or flowing into the bodies of water within the Santa Rosa Watershed.¹

Project Site

There are four creeks that traverse the project site, as shown in Exhibit 2-4. The South Fork of Melita Creek crosses the northern portion of the site near Sonoma Highway. The South Fork discharges into Melita Creek in the small western portion of the site near Melita Road. Melita Creek flows southward before discharging into Oakmont Creek west of the project site. Oakmont Creek crosses the southern portion of the site roughly parallel to its southern boundary before discharging into Santa Rosa Creek west of the site. Annadel Creek drains from Trione-Annadel State Park into Oakmont Creek in the southeastern portion of the site. All the creeks that traverse the project site, except for Oakmont Creek, are seasonal creeks, meaning they have no water in them for part of the year. Oakmont Creek has not been identified as a seasonal creek.²

Drainage patterns of an area typically follow its topography. According to the Phase I Environmental Site Assessment (ESA) conducted for the project site, in general, the northern portion of the site has

¹ City of Santa Rosa. 2009. City of Santa Rosa General Plan 2035 Draft Environmental Impact Report (EIR).

² City of Santa Rosa. 2013. City of Santa Rosa Citywide Creek Master Plan.

moderate to slight gradients trending north from the ridgeline toward Sonoma Highway, while the southern portion of the site has steep to slight gradients trending south from the ridgeline toward Oakmont Creek. As described in Section 3.15, Utilities and Service Systems, runoff on the project site either percolates into the soil or enters existing storm drainage facilities that discharge into Melita Creek and its South Fork.

Surface Water Quality

Sonoma County

Surface water quality in Sonoma County is monitored by the North Coast Regional Water Quality Control Board (RWQCB) and the City of Santa Rosa. The Water Quality Control Plan for the North Coast Region (Basin Plan), prepared by the North Coast RWQCB, identifies the beneficial uses of surface waters in its region and specifies water quality objectives to maintain the continued beneficial uses of these waters. According to the Basin Plan, beneficial uses of the Santa Rosa subarea of the Russian River include municipal, agricultural, and industrial supply; groundwater recharge; warm and cold freshwater habitat; navigation; spawning, reproduction, and development; water contact recreation; non-water contact recreation; wildlife habitat; rare species; and possible shellfish and aquatic plant and animal harvesting.³ The Russian River hydrologic unit that includes the Laguna de Santa Rosa watershed is listed under Clean Water Act Section 303(d) as impaired for indicator bacteria, low dissolved oxygen, mercury, nitrogen, phosphorus, sediment, and temperature. Santa Rosa Creek is listed for impairments associated with indicator bacteria, sediment, and temperature. The Laguna de Santa Rosa unit of the Russian River is also listed for impairments associated with low dissolved oxygen, mercury, nitrogen, phosphorus, sediment, and temperature.

Project Site

The project site is located within the City of Santa Rosa and would be subject to the RWQCB and Basin Plan. All creeks that occur on the project site are tributaries of Santa Rosa Creek. As described previously, Santa Rosa Creek is listed for impairments associated with indicator bacteria, sediment, and temperature under Clean Water Act Section 303(d).

Ground Basin Hydrology

Santa Rosa Area

The Santa Rosa area is largely underlain by alluvial deposits known as the Glen Ellen Formation. The gravels, sands, and silts of this formation are the principle water-bearing units of the region. The relatively permeable materials of the Glen Ellen Formation provide the means for recharge of the aquifer from storm events and surface water infiltration.⁴

Project Site

The project site is within the Rincon Valley Subbasin of the Santa Rosa Valley Groundwater Basin. The Rincon Valley Subbasin encompasses approximately 5,600 acres in the eastern portion of the City. It is a relatively flat area in a northwest-trending structural trough. It consists of sedimentary

³ City of Santa Rosa. 2009. City of Santa Rosa General Plan 2035.

⁴ *Ibid.*

deposits from the Glen Ellen Formation that overlie, and are bounded mostly by outcrops of the Sonoma Volcanics.⁵

According to the Phase I ESA, based on information from local groundwater monitoring reports, groundwater is estimated to be at least 10 feet below the ground surface along the project site's lowest elevations. Under natural, undisturbed conditions, shallow groundwater flow generally follows the topography of the land surface. Based on this information, the topography suggests that groundwater flow across the project site generally would be in a west-northwest direction. Therefore, areas located east-southeast of the project site are considered upgradient. However, actual groundwater flow direction is often locally influenced by factors such as rainfall, geologic structure, seasonal fluctuations, soil and bedrock geology, production wells, and other factors.⁶

Groundwater Water Quality

Santa Rosa Area

In the Santa Rosa area, groundwater at all depths is characterized primarily by sodium and magnesium bicarbonate types. According to a Department of Water Resources study of the basin, few wells tested for water quality contained constituents over the recommended concentration for drinking water. While many wells produced water with aesthetic problems such as elevated concentrations of iron, manganese, or high hardness, the overall quality of groundwater in the Santa Rosa Plain is good. Groundwater underlying the City's service area generally meets primary and secondary drinking water standards for municipal use.⁷

Project Site

The project site contains an active groundwater well that served the homes on the project site, which were all destroyed as a result of the Glass Fire in October 2020. The geotechnical investigation did not identify groundwater during their test pits but previous investigations of the project site encountered groundwater as shallow as 3 feet.

Stormwater Runoff

Santa Rosa

The North Coast RWQCB is the public agency charged with regulating Santa Rosa's stormwater runoff. The City's Municipal Separate Stormwater Sewer System (MS4) stormwater drainage system carries stormwater through a series of storm drains, gutters, and underground pipes. The City's storm drain system includes a total of 75 miles of open channels/ditches, and over 320 miles of public underground pipes.⁸ The City's stormwater system serves most but not all of Santa Rosa, as some portions on the more rural fringe of Santa Rosa are not connected to the City's stormwater drainage system. The City's Storm Water Team monitors water quality to determine local pollutants of concern.⁹ The City's approach to managing stormwater runoff in stormwater drainage areas is to capture all wet-weather flows and convey them to local creeks and rivers and, thus, the Pacific

⁵ City of Santa Rosa. 2013. City of Santa Rosa Groundwater Management Plan.

⁶ *Ibid.*

⁷ City of Santa Rosa. 2013. City of Santa Rosa Groundwater Management Plan, Page 5-10.

⁸ City of Santa Rosa. Storm Water. Website: <https://srcity.org/1151/Storm-Water>.

⁹ *Ibid.*

Ocean. Numerous streams and creeks flow through Santa Rosa's hills and valleys to the Pacific Ocean. The City's stormwater is not treated before it is released into water bodies.

Project Site

The project site contains existing storm drains and drainage along the northern boundary of the project site.

Flooding and Inundation

Santa Rosa

100-year Flood

Flood hazard areas—those areas susceptible to flooding—are mapped by the Federal Emergency Management Agency (FEMA). FEMA maps do not take into account future conditions. To protect such areas from flood hazards, FEMA administers the National Flood Insurance Program (NFIP). The NFIP is a federal program created to avert future flood losses through building and zoning ordinances and to provide federally backed flood insurance protection for property owners. The City is a participant in the NFIP.

To support the NFIP, FEMA publishes Flood Insurance Rate Maps (FIRMs) for participating communities, which are used for flood insurance and floodplain management purposes. The FIRMs delineate different special flood hazard area zones. Special flood hazard areas associated with the 1 percent probability of annual exceedance are zones that begin with the letter "A" (e.g., Zone A, Zone AE, and Zone AO). FEMA released a preliminary FIRM for the City on December 2, 2008. The project site is listed under Zone X as an area of minimal flood hazard.

Mudflow

Mudflows typically occur on steep slopes where vegetation is not sufficient to prevent rapid erosion. With numerous fire-scarred areas in Santa Rosa following the recent Glass Fire, the City has more areas that are susceptible to mudflows during precipitation events or heavy winds.

Project Site

100-year Flood

The project site is not located in a 100-year flood zone as designated in the Sonoma County Hazard Mitigation Plan Figure 8.5, "100-year Flood Zone."

Mudflow

The project site contains hillside areas and, as such, is susceptible to mudflows during precipitation events or heavy winds, especially in areas with limited vegetation stabilizing the soils.

3.8.3 - Regulatory Framework

Federal

Clean Water Act

The Clean Water Act (CWA) (Title 33, § 1251, *et seq.* of the United States Code [33 USC 1251, *et seq.*]) is the major federal legislation governing the water quality aspects of construction and

operation of the project. The CWA established the basic structure for regulating discharges of pollutants into waters of the United States (not including groundwater) and waters of the State of California. The objective of the act is “to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.”

The CWA authorizes the United States Environmental Protection Agency (EPA) to implement pollution control programs. Under the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a National Pollution Discharge Elimination System (NPDES) permit is obtained. In addition, the CWA requires each state to adopt water quality standards for receiving water bodies and to have those standards approved by EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality objectives necessary to support those uses.

Responsibility for protecting water quality in California resides with the State Water Resources Control Board (State Water Board) and nine RWQCBs. The State Water Board establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and State water quality statutes and regulations. The RWQCBs develop and implement water quality control plans (basin plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. Water quality standards applicable to the project are listed in the North Coast RWQCB Basin Plan.

Section 303—Water Quality Standards and Total Maximum Daily Loads

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface waters of the United States based on the water body’s designated beneficial use. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based on biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards.

CWA Section 303(d) requires states and authorized Native American tribes to develop a list of water quality-impaired segments of waterways. The list includes waters that do not meet water quality standards necessary to support a waterway’s beneficial uses even after the minimum required levels of pollution control technology have been installed. Listed water bodies are to be priority ranked for development of a Total Maximum Daily Load (TMDL). A TMDL is a calculation of the total maximum daily load (amount) of a pollutant that a water body can receive on a daily basis and still safely meet water quality standards. The TMDLs include waste load allocations for urban stormwater runoff as well as municipal and industrial wastewater discharges, with allocations apportioned for individual MS4s and wastewater treatment plants, including those in Santa Rosa. For stormwater, load reductions would be required to meet the TMDL waste load allocations within the 20 years required by the TMDLs.

The State Water Board, RWQCBs, and EPA are responsible for establishing TMDL waste load allocations and incorporating approved TMDLs into water quality control plans, NPDES permits, and

Waste Discharge Requirements (WDRs) in accordance with a specified schedule for completion. The North Coast RWQCB develops TMDLs for the Santa Rosa area.

Section 401—Water Quality Certification

Section 401 of the CWA requires compliance with State water quality standards for actions within State waters. Under CWA Section 401, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the State Water Board delegates authority to either grant water quality certification or waive the requirements to the nine RWQCBs. The North Coast RWQCB is responsible for the project site.

Section 402—National Pollution Discharge Elimination System Permits

The RWQCBs administer the NPDES stormwater permitting program, under Section 402(d) of the federal CWA, on behalf of EPA. The objective of the NPDES program is to control and reduce levels of pollutants in water bodies from discharges of municipal and industrial wastewater and stormwater runoff. CWA Section 402(d) establishes a framework for regulating nonpoint-source stormwater discharges (33 USC 1251). Under the CWA, discharges of pollutants to receiving water are prohibited unless the discharge complies with an NPDES permit. The NPDES permit specifies discharge prohibitions, effluent limitations, and other provisions, such as monitoring deemed necessary to protect water quality based on criteria specified in the National Toxics Rule (NTR), the California Toxics Rule (CTR), and the basin plan.

Discharge prohibitions and limitations in an NPDES permit for wastewater treatment plants are designed to maintain public health and safety, protect receiving-water resources, and safeguard the water's designated beneficial uses. Discharge limitations typically define allowable effluent quantities for flow, biochemical oxygen demand, total suspended matter, residual chlorine, settleable matter, total coliform, oil and grease, pH, and toxic pollutants. Limitations also typically encompass narrative requirements regarding mineralization and toxicity to aquatic life. Under the NPDES permits issued to the City to operate the treatment plants, the City is required to implement a pretreatment program. This program must comply with the regulations incorporated in the CWA and the General Pretreatment Regulations (Code of Federal Regulations [CFR] Title 40, Part 403 [40 CFR 403]).

Section 401—Water Quality Certification

Section 404 of the CWA regulates temporary and permanent fill and disturbance of wetlands and waters of the United States. Under Section 404, the discharge (temporary or permanent) of dredged or fill material into waters of the United States, including wetlands, typically must be authorized by the United States Army Corps of Engineers (USACE) through either the Nationwide Permit (general categories of discharges with minimal effects) or the Individual Permit.

River and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted below the ordinary high-water elevation of navigable waters of the United States be approved and permitted by USACE. Regulated activities include the placement or removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of

soils/sediments or modification of a navigable waterway. Navigable waters of the United States are those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. Section 10 also regulates tributaries and backwater areas that are associated with navigable waters of the United States and are located below the ordinary high-water elevation of the adjacent navigable waterway.

A project proponent can apply for a permit/letter of permission for work regulated under Section 404 (CWA) and Section 10 (Rivers and Harbors Act) by completing and submitting one application form. An application for a Department of the Army permit will serve as an application for both Section 404 and Section 10 permits.

Federal Antidegradation Policy

The federal antidegradation policy is designed to protect existing water uses, water quality, and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing instream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

National Toxics Rule and California Toxics Rule

In 1992, the EPA promulgated the NTR under the CWA to establish numeric criteria for priority toxic pollutants for 14 states to bring all states into compliance with the requirements of CWA Section 303(c)(2)(B). The NTR established water quality standards for 42 pollutants not covered under California's statewide water quality regulations at that time. As a result of the court-ordered revocation of California's Statewide basin plans in September 1994, the EPA initiated efforts to promulgate additional federal water quality standards for California. In May 2000, the EPA issued the CTR, which includes all the priority pollutants for which the EPA has issued numeric criteria not included in the NTR.

Executive Order 11988

Executive Order 11988, "Floodplain Management," directs all federal agencies to avoid, to the extent possible, long- and short-term adverse impacts of occupancy and modification of floodplains, and to avoid supporting development in a floodplain either directly or indirectly wherever there is a practicable alternative. Compliance requirements are outlined in 23 Code of Federal Regulations 650, Subpart A, "Location and Hydraulic Design of Encroachment on Floodplains."

If a project involves significant encroachment into the floodplain, the final environmental document must include:

- The reasons why the proposed action must be located in the floodplain,
- Alternatives considered and the reasons they were not practicable, and
- A statement indicating whether the action conforms to applicable state or local floodplain protection standards.

National Flood Insurance Act and Flood Disaster Protection Act

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 were enacted to reduce the need for flood protection structures and limit disaster relief costs by restricting development in floodplains. FEMA, established in 1979, is responsible for predicting hazards from flooding events and forecasting the level of inundation under various conditions. As part of its duty to develop standards for delineating fluvial and coastal floodplains, FEMA provides information on FIRMs about the potential for flood hazards and inundation, and where appropriate, designates regions as special flood hazard areas. Special flood hazard areas are defined as areas that have a 1 percent chance of flooding in a given year.

FEMA also administers the NFIP, a federal program that enables property owners in participating communities to purchase insurance as protection against flood losses in exchange for state and community floodplain management regulations that reduce future flood damages. The City participates in the NFIP, and FEMA published a preliminary FIRM for the City Santa Rosa on December 2, 2008. Once FEMA resolves any appeals, FEMA will notify the City that the base flood elevations shown on the FIRM are final. After FEMA makes this determination, the City has 6 months to adopt the new FIRM as part of the City's Floodplain Management Ordinance. Once the FIRM is published in final form, it will be used to rate structures for flood insurance, and the City must use it to implement the Floodplain Management Ordinance (Ordinance Chapter 18-52).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State must adopt water quality policies, plans, and objectives that protect the State's waters for the use and enjoyment of the people. Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The RWQCBs are required to formulate and adopt basin plans for all areas in the region and establish water quality objectives in the plans. The Porter-Cologne Act sets forth the obligations of the State Water Board and RWQCBs to adopt and periodically update basin plans. The North Coast RWQCB is responsible for the project site.

Basin plans are the regional water quality control plans required by both the CWA and the Porter-Cologne Act that establish beneficial uses, water quality objectives, and implementation programs for each of the nine regions in California. The act also requires waste dischargers to notify the RWQCBs of their activities by filing reports of waste discharge and authorizes the State Water Board and RWQCBs to issue and enforce WDRs, NPDES permits, CWA Section 401 water quality certifications, or other

approvals. The RWQCBs are also authorized to issue waivers to reports of waste discharge and WDRs for broad categories of “low threat” discharge activities that have minimal potential to cause adverse water quality effects when implemented according to prescribed terms and conditions.

National Pollutant Discharge Elimination System

The NPDES permits all involve similar processes, which include submitting notices of intent for discharging to water in areas under the North Coast RWQCB’s jurisdiction and implementing Best Management Practices (BMPs) to minimize those discharges. The North Coast RWQCB may also issue site-specific WDRs, or waivers to WDRs, for certain waste discharges to land or waters of the State.

Construction Activity

The SWRCB’s statewide stormwater general permit for construction activity (Order 2009-009-DWQ, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) applies to all construction activities that would disturb 1 acre of land or more. Construction activities subject to the general construction activity permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters.

Through the NPDES and WDR processes, the State Water Board seeks to ensure that the conditions at a project site during and after construction do not cause or contribute to direct or indirect impacts on water quality (i.e., pollution and/or hydromodification) upstream and downstream. To comply with the requirements of the construction general permit, the project applicant must file a notice of intent with the State Water Board to obtain coverage under the permit; prepare a Storm Water Pollution Prevention Plan (SWPPP); and implement inspection, monitoring, and reporting requirements appropriate to the project’s risk level as specified in the SWPPP. The SWPPP includes a site map, describes construction activities and potential pollutants, and identifies BMPs that will be employed to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources, such as petroleum products, solvents, paints, and cement. The permit also requires the discharger to consider using post-construction permanent BMPs that will remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements.

Project sites served by the combined sewer system are not required to obtain coverage under the NPDES construction general permit. The City of Sana Rosa does not have a combined sewer system. Also, a portion of the project site is located in the separate storm sewer area of the City and would therefore require coverage under the NPDES construction general permit. It has been requested that as part of the project that the entire project site be located in the separate storm sewer area, thus requiring coverage under the NPDES construction general permit for the entire site.

Stormwater

In November 1990, the EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase I of the permitting program applied to municipal discharges of stormwater in urban areas where the population exceeded 100,000 persons. Phase II of the NPDES stormwater permit regulations, which became effective in March 2003, required that NPDES permits be issued for construction activity for projects disturbing 1–5 acres. Phase II of the municipal permit system (known as the NPDES General Permit for Small MS4s, Order

No. 2003-0005-DWQ as amended by 2013-0001-DWQ) required small municipalities of fewer than 100,000 persons to develop stormwater management programs. This permit authorizes discharges of stormwater and some categories of non-stormwater that are not “significant contributors of pollutants.” The City’s MS4 stormwater drainage system carries stormwater through a series of storm drains, gutters, and underground pipes.

California Toxics Rule and State Implementation Policy

The CTR, presented in 2000 in response to requirements of EPA’s NTR, establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The CTR criteria are regulatory criteria adopted for inland surface waters, enclosed bays, and estuaries in California that are on the CWA Section 303(c) list for contaminants. The CTR includes criteria for the protection of aquatic life and human health. Human health criteria (water- and organism-based) apply to all waters with a Municipal and Domestic Water Supply beneficial use designation as indicated in the basin plans. The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, also known as the State Implementation Policy, was adopted by the State Water Board in 2000. It establishes provisions for translating CTR criteria, NTR criteria, and basin plan water quality objectives for toxic pollutants into:

- NPDES permit effluent limits,
- Effluent compliance determinations,
- Monitoring for 2,3,7,8-tcdd (dioxin) and its toxic equivalents,
- Chronic (long-term) toxicity control provisions,
- Site-specific water quality objectives, and
- Granting of effluent compliance exceptions.

The goal of the State Implementation Plan is to establish a standardized approach for permitting discharges of toxic effluent to inland surface waters, enclosed bays, and estuaries throughout the State.

Regional

Water Quality Control Plan for the North Coast Region

Water quality control plans, commonly known as “Basin Plans,” provide the basis for protecting water quality in California. Basin Plans are mandated by both the federal CWA and the State Porter-Cologne Act. The North Coast Region Basin Plan was adopted by the North Coast RWQCB and approved by the State Water Board in 2011. The goal of the Basin Plan is to provide a definitive program of actions designed to preserve and enhance water quality and protect “beneficial uses” of waters in the North Coast Region. State law defines beneficial uses as “domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves” (California Water Code, § 13050(f)). The beneficial uses of any specifically identified water body generally apply to all tributary streams to that water body.

The North Coast Region Basin Plan contains specific narrative and numeric water quality objectives for several physical properties (e.g., temperature, dissolved oxygen, turbidity, suspended solids),

biological constituents (e.g., coliform bacteria), and chemical constituents of concern, including inorganic parameters and trace metals and organic compounds. The entire program relies on the implementation of BMPs. BMPs are methods used on construction sites to limit the contact of pollutants (e.g., sediment and construction site debris) with stormwater runoff at its source; keep pollutants out of water conveyance systems and treatment plants; and remove pollutants before they are discharged into receiving waters. According to the Basin Plan, beneficial uses of the Santa Rosa subarea of the Russian River include municipal, agricultural, and industrial supply; groundwater recharge; warm and cold freshwater habitat; navigation; spawning, reproduction, and development; water contact recreation; non-water contact recreation; wildlife habitat; rare species; and possible shellfish and aquatic plant and animal harvesting.

The North Coast RWQCB also issues the NPDES MS4 Phase 1 permit to the City. This permit requires post-construction stormwater quality measures and site design consistent with the Storm Water Low Impact Development Technical Design Manual (LID Manual) and pollution preparation measures.

Sonoma County Water Agency Flood Control Design Criteria

Sonoma Water (formerly known as the Sonoma County Water Agency) was formed in 1949 with the primary responsibility to produce and furnish water for beneficial uses, water conservation, and flood management. Nine geographical zones, each encompassing a major watershed, were proposed in 1958 as a means of financing the construction and maintenance of flood control works in the County. Sonoma Water works cooperatively with the incorporated cities, unincorporated communities, and the state and federal government to oversee flood control channel modifications and flood control revenue collection within the six active zones. The City of Santa Rosa is located in Flood Zone 1A—Laguna de Santa Rosa—Mark West Creek Watershed.

In compliance with Sonoma Water's Flood Control Design Criteria (FCDC), all culverts and drainage systems must be designed to accommodate the runoff from a 25-year recurrence interval storm event and safely pass the 100-year recurrence interval storm. SCWA reviews project plans for proposed on-site drainage improvements, as well as proposals for drainage improvements that may be required off-site. In addition, Sonoma Water is in the process of revising and updating the FCDC to reflect a lower impact approach.

Standard Urban Stormwater Mitigation Plan

The Standard Urban Storm Water Mitigation Plan (SUSMP), adopted by Sonoma County, Sonoma Water, and the City of Santa Rosa in June 2005, applies to both privately sponsored-projects and capital improvement projects. The SUSMP requires applicable projects to design and implement post-development measures to reduce stormwater pollution. Under the SUSMP, applicable projects are required to design and implement post-development measures for the management of stormwater quality and stormwater quantity and for the conservation of natural areas of the development site. The SUSMP is also in the process of undergoing revision to reflect requirements for Low Impact Development projects. The emphasis will be on managing stormwater runoff through landscape-based treatment methods to reduce the potential impacts to local drainages.

Local

Santa Rosa General Plan 2035

- **Goal PSF-I:** Manage, maintain, and improve stormwater drainage and capacity.
- **PSF-I-1:** Require dedication, improvement, and maintenance of stormwater flow and retention areas as a condition of approval.
- **PSF-I-2:** Require developers to cover the costs of drainage facilities needed for surface runoff generated as a result of new development.
- **PSF-I-3:** Require erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity, and protect water quality.
- **PSF-I-4:** Require measures to maintain and improve the storm drainage system, consistent with goals of the Santa Rosa Waterways Citywide Creek Master Plan, to preserve natural conditions of waterways and minimize paving of creek channels.
- **PSF-I-6:** Require implementation of Best Management Practices to reduce drainage system discharge of non-point source pollutants originating from streets, parking lots, residential areas, businesses, industrial operations, and those open space areas involved with pesticide application.
- **PSF-I-7:** Prepare and distribute information to increase awareness of businesses and residents about the need to reduce drainage system discharge of non-pollutants.
- **PSF-I-8:** Develop and implement the Standard Urban Storm Water Mitigation Plan (SUSMP) in order to reduce pollutants and runoff flows from new development and significant redevelopment projects.
- **OSC-B-3:** Require that new subdivisions, multifamily, and non-residential development abutting creek corridors are appropriately designed with respect to the creek. Development may orient toward the creek as an amenity, but adequate setbacks shall be used to ensure riparian habitat is protected.
- **OSC-D-6:** Preserve waterways by informing residents of the environmental effects of dumping yard waste into creeks, or other wastes, such as motor oil, into storm drains that empty into creeks.
- **OSC-D-7:** Rehabilitate existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. Avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.
- **Goal NS-D: Minimize hazards associated with storm flooding.**
- **NS-D-1:** Ensure flood plain protection by retaining existing open areas and creating new open areas needed to retain stormwater, recharge aquifers, and prevent flooding. Creek beds that are dry most of the year provide flood retention needed for public safety.
- **NS-D-3:** Require that new development incorporate features that are consistent with the Standard Urban Storm Water Mitigation Plan (SUSMP) into site drainage plans that would

reduce impermeable surface area, increase surface water infiltration, and minimize surface water runoff during storm events. Such features may include:

- Additional landscape areas;
 - Parking lots with bio-infiltration systems;
 - Permeable paving designs; and
 - Stormwater detention basins.
- **NS-D-5:** Apply design standards to new development that help reduce project runoff into local creeks, tributaries, and drainage ways.

City of Santa Rosa City Code

City Code Chapter 17.12, Storm Water, regulates modifications to the natural flow of stormwater as well as discharges to the City's stormwater system, in compliance with applicable NPDES stormwater discharge permits.

Santa Rosa Citywide Creek Master Plan

The Santa Rosa Citywide Creek Master Plan, adopted by City Council in 2007 and updated in 2013, implements General Plan Policy OSC-D-13 and provides guidelines for the care, management, restoration, and enhancement of nearly 90 miles of creeks in Santa Rosa. The Master Plan is intended for use by City and County staff when planning creek enhancement and restoration activities, coordination and expansion of creekside trail systems, making broader land-use planning decisions concerning creeks, and in the development project approvals process for projects proposed adjacent to a waterway.

The Creek Master Plan consolidated previously adopted creek policies that were contained in numerous city documents that were adopted over a span of several decades, and it presents these policies in a comprehensive and illustrative form. These policies, some of which are presented below, include recommendations for habitat preservation, enhancement, restoration, and development of trails by each watershed.

- **Policy HA-1-2:** Meet or exceed the required creek setback distance to provide ecological buffers, recognize the 100-year floodplain, and allow for stream corridor restoration. Development shall locate outside the creek setback, as defined within the Santa Rosa Zoning Code.
- **Policy HA-2-3:** Allow stream bank and waterway stability repairs as necessary and reasonable to protect the integrity of adjacent properties and public health and safety. Repairs should be sensitive to the natural environment. Use bioengineering techniques, where possible.
- **Policy SW-1-1:** Cooperate with partner agencies to conduct regular assessment of stormwater drainage facilities to ensure that adequate drainage capacity is maintained throughout the system.
- **Policy SW-1-2:** Maintain current flood hazard data, and coordinate with responsible agencies to coordinate flood hazard analyses and management activities.
- **Policy SW-1-3:** Balance habitat restoration and hydraulic capacity. Provide a detailed hydraulic analysis for every project component affecting flood conveyance prior to implementation to

identify allowable “roughness” values and to interpret those values in the form of a vegetation planting and monitoring plan.

- **Policy SW-2-1:** New development and redevelopment projects shall comply with the City NPDES storm water permit and with the Storm Water Low Impact Development Technical Design Manual.
- **Policy SW-2-2:** Stormwater treatment measures that involve small-scale landscape based Low Impact Development Best Management Practices (BMPs) that treat storm water as close to the source as possible shall be prioritized over other BMPs.
- **Policy SW-2-3:** Future storm water offset projects which fulfill City NPDES stormwater permit hydromodification requirements shall implement projects identified in the Citywide Creek Master Plan where feasible.
- **Policy EC-1-1:** Where discretionary approval for new development is sought adjacent to the creek, that development shall, to the extent possible, be consistent with and support the Master Plan. Planners and decision-makers will look for consistency between projects and the Master Plan. The overall intent of this policy is to incorporate the creek into the project design.
- **Policy EC-1-2:** Conditions of approval for development should include dedication (per fee title and/or easement) of land and construction of Master Plan improvements as appropriate, and where a nexus can be demonstrated.
- **Policy EC-1-3:** The design of new development adjacent to the creek shall, to the extent possible, allow for future public improvements consistent with the Master Plan.
- **Policy WQ-1-1:** Preserve waterways by informing residents of the environmental effects of dumping yard waste, pet waste, or pollutants such as motor oil into creeks or into storm drains that empty into creeks as well as littering. The Storm Water and Creeks section of the Utilities Department has created several brochures about stormwater pollution prevention and the benefits of local creeks.
- **Policy WQ-2-1:** Require implementation of Best Management Practices to reduce drainage system discharge of non-point source pollutants originating from streets, parking lots, residential areas, business, industrial operations and those open space areas involved with the application of chemicals. Continue implementation of the Integrated Pest Management program.
- **Policy WQ-2-2:** Implement the Storm Water Low Impact Development Technical Design Manual to reduce pollutants and runoff flows from new development and redevelopment projects.
- **Policy WQ-3-1:** Ensure that construction and other activities adjacent to creek channels are sensitive to the natural environment. Avoidance of work adjacent to creek channels is always preferred but if necessary, impacts to the natural environment shall be minimized or mitigated. Ensure that these activities do not disrupt or pollute the waterway.
- **Policy PR-1-1:** Proposed improvements associated with development projects should be consistent with the Master Plan.
- **Policy HS-1-1:** Minimize hazards associated with storm flooding.

Santa Rosa Stormwater Low Impact Development Technical Design Manual

The LID Manual, adopted by the City of Santa Rosa in October 2011 and implemented in 2012, applies to both privately sponsored projects and municipal capital improvement projects. This project is subject to the most current version of this manual released in May 2017. The LID Manual requires applicable projects to design and implement post-development measures to reduce stormwater pollution. Under the LID Manual, applicable projects are required to design and implement post-development measures for the management of stormwater quality and stormwater volume for the entire development site. The LID Manual emphasizes managing stormwater runoff through landscape-based treatment and retention methods to reduce the potential impacts to local waterways. The goal of the manual is to reduce pollution and runoff volumes to the maximum extent possible for capital improvement projects and new development or redevelopment projects meeting the following criteria:

- Development that creates or replaces a combined total of 1 acre or more of new impervious surface.
- Street, road, highway, or freeway construction or reconstruction, creating or replacing 10,000 square feet or more of impervious surface.

3.8.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G, to determine whether impacts related to hydrology and water quality are significant environmental effects, the following questions are analyzed and evaluated. Would the proposed project:

- a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?
- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - (i) result in substantial erosion or siltation on- or off-site?
 - (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
 - (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
 - (iv) impede or redirect flood flows?

- d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (This question is not discussed in this section; instead, refer to Chapter 4, Effects Found not to be Significant, for the respective analysis.)
- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Approach to Analysis

Impacts related to hydrology and water quality were determined by reviewing information regarding regional and local hydrology, climate, topography, and geology contained in the Santa Rosa General Plan 2035, General Plan 2035 Draft EIR, North Coast RWQCB Basin Plan, and FEMA FIRMs. Evaluation of impacts is based on a comparison of existing conditions to the project's built condition, such as changes in impervious area and facilities located within any flood zones. Specifically, the impact evaluation focuses on effects on surface and groundwater quality, groundwater supply, and drainage (in terms of erosion, siltation, flooding, stormwater system exceedance, and polluted runoff). Water quality conditions are compared with water quality standards and WDRs by identifying potential contaminants and pollution pathways, amount of impervious area, and runoff treatment requirements. Finally, as part of the analysis, the potential for inundation and flooding on the project site from a potential 100-year flood or mudflow is assessed by reviewing potential inundation zone elevations relative to the final grade elevations of facilities and features for the project.

Impact Evaluation

Surface and Groundwater Quality

Impact HYD-1:	The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
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This project could have a significant environmental impact if construction or operational activities associated with the project have the potential to degrade water quality in adjacent and downstream water bodies as well as in the associated groundwater table such that applicable water quality standards or waste discharge requirements would be violated or otherwise substantially degrade water quality.

Construction

As described above, the project site is traversed by four streams. Section 3.5, Geology and Soils, notes that construction activities would expose on-site soils to potential water erosion and construction equipment-related pollutants. Runoff carrying eroded soils and pollutants could enter the on-site streams, increasing sedimentation and degrading the water quality of these streams. Any such sediments also could be carried downstream and discharged into other streams, degrading their surface water quality, or allowed to seep into the associated groundwater table. This would be a potentially significant surface and groundwater quality impact if not controlled.

Given that proposed construction would disturb more than 1 acre of land, the project would be required to comply with the terms of the Construction General Permit, which require the

preparation and implementation of a SWPPP that includes BMPs to ensure reduction of pollutants from construction activities potentially entering surface waters. In addition, as described in Section 3.5, City Code Title 18 requires projects to comply with Appendix J-110 of the CBC and City Code 19-64, which requires implementation of erosion control measures. Although construction activities have the potential to generate increased sedimentation, compliance with applicable policies, laws and regulations would minimize the potential to degrade water quality in downstream water bodies to the maximum extent practicable. As a result, construction-related project impacts on surface and groundwater and their water quality would be less than significant.

Operation

The project would increase the amount of impervious surface compared with existing conditions. This would generate increased runoff, which may carry pollutants such as pesticides, fertilizers, and deposits of fluids and metals from motor vehicles into adjacent streams or allow seepage of such pollutants into the associated groundwater table. This would be a potentially significant impact if not controlled.

The project would leave approximately 24 percent of the project site undisturbed in its natural open space condition and another approximately 34 percent would be landscaped at buildout. These non-paved areas would limit the amount of runoff generated that could carry pollutants into adjacent streams, and they can act as filters by removing pollutants from runoff during percolation. In addition, as noted in Chapter 2, Project Description, the project proposes a privately owned and maintained storm drainage system that would keep all runoff on-site, which would be sized to adhere to all applicable statutes and regulations. The project would comply with the applicable provisions of the City's LID Manual and provide post-development stormwater prevention measures such as stormwater retention basins and bio swales. Consistent with the Citywide Creek Master Plan Policy HA-1-2, the project would meet required creek setback distances and provide ecological buffers, thereby placing impervious surface areas away from the creeks. These measures, in addition to over half the project site remaining vegetated, would reduce the amount of pollutants from project operations that enter streams. As a result, operation-related project impacts on surface and groundwater and their water quality would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Groundwater Supply/Recharge

Impact HYD-2: **The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.**

The project would develop an area that is largely undeveloped. Approximately 42 percent of the approximately 68.7-acre site would be developed with roads, paths, homes, and other senior care facilities, improvements and amenities. As a result of the additional impervious surfaces associated with project implementation, the project could have impacts to groundwater supplies and recharge, as less area for precipitation to percolate into the ground and into local aquifers is made available.

The City manages two groundwater wells that provide up to 2,300 acre-feet of water per year. However, the City is not heavily dependent on groundwater.¹⁰ As discussed in Section 3.15, Utilities and Service Systems, the City would be able to provide adequate water services to the project site and the rest of the City during normal and multiple dry years under its Water Shortage Contingency Plan. Therefore, the project, which falls within the City's municipal boundaries and Urban Growth Boundary (UGB) and would be served by the City, would not result in the use of groundwater such that supplies would be substantially decreased.

Because of the construction of more impervious surfaces compared with existing conditions, there would be a decrease in on-site groundwater recharge. However, approximately 24 percent of the site would remain undisturbed and left in its natural state and another approximately 34 percent would be landscaped, which would still allow for groundwater recharge. Furthermore, stormwater retention basins and natural open space on-site would allow for groundwater recharge. Moreover, consistent with applicable City requirements, Melita Creek and Oakmont Creek and their surrounding areas would be left undisturbed and would have natural setbacks, thereby allowing continued existing groundwater recharge. Therefore, the project would not interfere substantially with groundwater supply or recharge such that the project may impede sustainable groundwater management of the basin, and this impact would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

¹⁰ City of Santa Rosa. 2015 Urban Water Management Plan (UWMP). June 2016.

Drainage Leading to Erosion/Siltation, Flooding, Additional Sources of Polluted Runoff, or Impedance of Flood Flows

Impact HYD-3:	<p>The proposed project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:</p> <ul style="list-style-type: none">i) result in substantial erosion or siltation on- or off-site;(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or(iv) impede or redirect flood flows.
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Erosion and Siltation

The project would have a significant impact if it were to substantially alter the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on or off-site. Such drainage effects could occur from grade changes at the project site, exposure of soils for periods of time during stormwater discharge, or alterations to creek beds. These types of changes would have a potentially significant impact on on-site drainage patterns.

As shown in Exhibit 2-4, the project site is traversed by four creeks—Oakmont Creek, Annadel Creek, Melita Creek, and South Fork of Melita Creek. Project construction would be required to comply with applicable federal, State, and city policies and regulations, as discussed under Impact HYD-1. The City Code requires minimum 50-foot setbacks from creeks to avoid potential construction and operation impacts. The project would observe these setbacks; therefore, it would not alter any creekbeds and would leave the area surrounding the creeks undisturbed. In addition, implementation of Mitigation Measure (MM) BIO-2a and MM BIO-2b would prevent potential significant impacts to the creeks through the adherence to permit requirements imposed by the USACE and RWQCB. Compliance with applicable policies in the Citywide Creek Master Plan and City Code would ensure construction and operational activities would not disrupt on-site creeks.

The project site had previously been approved for a development project that was abandoned. As a result, the site was rough-graded to create a series of large flat pads, and some storm drainage facilities were installed. In addition, the previous grading left slopes in excess of 25 percent at the back (south) sides of the pads. Further grading and excavation are planned to reduce the gradient on the slopes, which could cause sediment erosion. As discussed under Impact HYD-1, the project would be required to implement a SWPPP as part of its Construction General Permit to ensure that erosion, siltation, and flooding are prevented during construction.

The project would alter the natural drainage pattern of the site with the construction of new buildings and inclusion of new paved surfaces on the site. The inclusion of more impervious surfaces compared with existing conditions would generate an increase in stormwater runoff that could potentially result in erosion and siltation.

The project would include an on-site storm drain system as well as stormwater quality improvement devices. Outfalls to on-site waterways would be required in several locations. Stormwater collection systems and treatment would be privately owned and maintained. The project would include pervious gutters with bioretention, bioretention planters, treepod bioretention structures, and underground stormwater retention structures in order to capture and control stormwater runoff on-site. The incorporation of landscaped bioretention areas are intended to absorb stormwater and prevent off-site flow, thereby preventing pollutants from entering into nearby creeks. These structures capture stormwater by utilizing natural vegetation and porous soil to mimic natural soil infiltration processes. The stormwater system would be designed such that substantial increase in off-site stormwater flow rates over existing conditions would not occur. The project also would comply with the applicable provisions of the City's LID Manual by implementing landscape stormwater management features such as bio-retention areas to prevent erosion, siltation, and flooding during operation. Overall, through compliance with applicable regulations and mitigation, the project's impacts related to substantial erosion or siltation on or off-site due to changes in drainage patterns would be less than significant.

Surface Runoff

The project would have a significant impact if it contributed runoff to downstream storm drainage facilities that would result in the potential for flooding on- or off-site. As previously described, the project would add impervious surfaces to a largely undeveloped area. This would generate additional runoff that could enter adjacent streams, which would be a potentially significant impact.

As previously noted, the project would leave approximately 24 percent of the project site undisturbed in its natural state, and would include installation of landscaping on another approximately 34 percent of the site, which would limit the increase in the amount of runoff. In addition, as previously noted, the project would not alter the on-site creek beds and their adjacent areas. Nevertheless, the project would alter the natural drainage pattern of the site with the construction of new buildings and inclusion of new paved surfaces on the site. The inclusion of more impervious surfaces compared with existing conditions would generate an increase in stormwater runoff that could potentially result in flooding.

As described previously, the project would implement post-development measures and BMPs consistent with applicable provisions of the LID Manual to reduce stormwater pollution such as runoff detention areas, bio-swales, and other landscape-based treatment to reduce peak flows. The LID BMPs that the project would include are permanent stormwater BMPs that treat or retain stormwater through a soil filter media, vegetation, and/or retain stormwater runoff on-site through infiltration of evapotranspiration. These BMPs are intended to minimize adverse impacts from stormwater runoff on water quality, mimic pre-development water balance, minimize pollutant loadings, and minimize post-development surface flows and velocities.

As described in Chapter 2, Project Description, the project would retain approximately 75 percent of existing on-site trees and would plant new trees consistent with a City of Santa Rosa tree removal permit. In addition, the project would include a privately owned and maintained storm drainage system that includes pervious gutters with bioretention planters, treepod bioretention structures, and underground stormwater retention structures that would adhere to applicable requirements

and standards to ensure that 100 percent of runoff is kept on-site. Furthermore, the project would be required to comply with the NPDES permit and General Plan 2035 Policies PSF-I-1, 2, and 3. Compliance with applicable City policies and construction of an on-site storm drainage system would ensure that the project would not contribute runoff to downstream storm drainage facilities in a manner that would result in flooding. Therefore, this impact would be less than significant.

Exceedance of Storm Drain Capacity/Polluted Runoff

A significant impact would occur if the project created runoff water that exceeds the capacity of existing or planned stormwater drainage systems or provides substantial sources of polluted runoff. The project would increase the amounts of impervious surfaces and volume of stormwater compared to existing conditions, thereby potentially increasing the amount of runoff.

As previously described, the project would leave approximately 24 percent of the project site undisturbed in its natural state and an additional approximately 34 percent would be landscaped, thereby limiting increase in runoff volume. The project would install a storm drainage system that would adhere to applicable design requirements and standards requiring retention of stormwaters and metered flow to ensure runoff rates do not increase from existing conditions. Furthermore, the project would comply with applicable General Plan policies and the NPDES permit. Therefore, the project would not produce substantial sources of polluted runoff. As previously described, the project would include various stormwater management features in compliance with the LID Manual, which would reduce the volume of runoff produced from the project, reduce pollutants, and increase groundwater recharge. As a result, compliance with applicable regulations and implementation of the proposed stormwater management features would ensure the project would not create runoff that exceeds the capacity of existing or planned stormwater drainage systems or provide sources of polluted runoff, and this impact would be less than significant.

Flood Flows

The project site is not located within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or FIRM. Since the project would not place structures in a flood hazard area, it would also not impede or redirect flood flows. As described in further detail under Impact HYD-4, the project site is not susceptible to inundation from flood hazards, tsunamis, or seiches. As a result, the project would not impede or redirect flood flows. Therefore, there would be no construction or operational impedance of flood flow impact.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM BIO-2a and MM BIO-2b.

Level of Significance After Mitigation

Less than significant impact.

Water Quality Control or Sustainable Groundwater Management Plans Consistency

Impact HYD-4: **The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.**

The project site is within the Rincon Valley Subbasin of the Santa Rosa Valley Groundwater Basin. A groundwater sustainability plan has not yet been adopted by the Santa Rosa Plain Groundwater Sustainability Agency.¹¹ Given that proposed construction would disturb more than 1 acre of land, the project would be required to comply with the terms of the Construction General Permit, which require the preparation and implementation of a SWPPP that includes BMPs to ensure reduction of pollutants from construction activities potentially entering surface waters. The project would not conflict with the Water Quality Control Plan for the North Coast Region, Sonoma County's SUSMP, or the Santa Rosa Citywide Creek Master Plan as a result of implementation of applicable water quality control regulations and project design. Pursuant to the analysis and conclusions in Section 3.15, Utilities, the project's water demand can be met by existing and planned sources and would not result in adverse effects to groundwater supply. Therefore, construction and operation impacts related to the water quality control plan or groundwater management plan consistency would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.8.5 - Cumulative Impacts

Cumulative impacts related to hydrology and water quality typically occur within a defined watershed. The project site and the creeks that run through it—Annadel Creek, Oakmont Creek, and the South and Main Forks of Melita Creek—are located in the Laguna de Santa Rosa watershed. Thus, the geographic scope of the cumulative hydrology and water quality analysis is the Laguna de Santa Rosa watershed, waters from which eventually discharge into the Russian River. The Russian River hydrologic unit that includes the Laguna de Santa Rosa watershed is listed under Clean Water Act Section 303(d) as impaired for indicator bacteria, low dissolved oxygen, mercury, nitrogen, phosphorus, sediment, and temperature. Santa Rosa Creek is listed for impairments associated with indicator bacteria, sediment, and temperature. The Laguna de Santa Rosa unit of the Russian River is also listed for impairments associated with low dissolved oxygen, mercury, nitrogen, phosphorus, sediment, and temperature. Therefore, there is the potential for a cumulative significant impact with respect to pollutants in these water bodies.

¹¹ Santa Rosa Plain Groundwater Sustainability Agency. Website: <http://santarosaplaingroundwater.org/>. Accessed October 10, 2019

The project would involve short-term construction and long-term operational activities that would have the potential to degrade water quality in downstream water bodies if not controlled, including Santa Rosa Creek and the Russian River. Project construction would be required to obtain a Construction General Permit from the State Water Board, which would require preparation of a SWPPP that would control potential discharges of contaminants into adjacent streams. Construction also would comply with the applicable policies of the Citywide Creek Master Plan. Project operations would be required to comply with applicable provisions of the City's LID Manual and provide post-development stormwater prevention measures. Other cumulative projects that propose new development within the City would be required to implement similar mitigation measures and otherwise would be required to comply with the applicable regulatory framework in accordance with adopted regulations, and these other cumulative projects would be subject to the Construction General Permit if applicable. In addition, cumulative projects in the County would also be subject to Chapter 11 of the County Code, which requires a permit prior to the start of development that contains conditions for erosion and sediment control. The combined implementation of construction and operational water quality measures among the various other cumulative projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, would be expected to help ensure that any cumulative impacts remain less than significant, and the project itself would not make a cumulatively considerable contribution in this regard related to existing surface water quality impacts.

The United States Geological Survey (USGS) evaluated long-term changes in storage for the period 1976 through 2010 as decreasing by 3,300 acre-feet annually. There is a very small change in overall groundwater storage in the Santa Rosa Plain Watershed and is consistent with generally stable groundwater levels in the sub-basin, which indicate that groundwater storage in the sub-basin is in balance. While this change in storage is very small, an imbalance in a localized area can lead to dropping groundwater levels and a reduction in creek and stream flows.¹² As such, there is the potential for a cumulatively significant impact to groundwater in the project area.

The project has the potential to reduce on-site groundwater recharge through additional impervious surfaces; however, more the half of the site would remain pervious and on-site stormwater management infrastructures, such as retention basins, would allow for groundwater recharge. On-site creeks and adjacent areas would remain undisturbed, further allowing recharge to continue on-site. The project may be served, in part, by groundwater, but as demonstrated in Section 3.15, Utilities and Services Systems, sufficient water exists to serve the project. Other cumulative projects that propose new development within the City would similarly be required to manage on-site groundwater recharge, as appropriate, and demonstrate sufficient surface and groundwater supplies. The combined implementation of construction and operational water quality design measures among the various other cumulative projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, would be expected to help ensure that any cumulative impacts remain less than significant,

¹² Santa Rosa Plain Groundwater Sustainability Agency. Website: <http://santarosaplaingroundwater.org/conditions/>. Accessed October 10, 2019.

and the project itself would not make a cumulatively considerable contribution in this regard related to groundwater impacts.

Given the above information, the project, in conjunction with other existing, planned, and probable future projects, would result in a less than significant cumulative impact related to hydrology and water quality.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

3.9 - Land Use and Planning

3.9.1 - Introduction

This section describes existing conditions related to land use and planning as well as the relevant regulatory framework. This section also evaluates the potential impacts related to land use and planning that could result from implementation of the project. Information included in this section is based, in part, on review of applicable land use policies and regulations, including the Santa Rosa General Plan 2035 and Santa Rosa City Code. During the Environmental Impact Report (EIR) scoping period, the following comments were received related to land use and planning:

- Land use impacts to Trione-Annadel State Park
- Neighborhood character impacts

3.9.2 - Environmental Setting

Physical Land Use

Surrounding Area

Melita Road borders the west side of the project site. That area is developed primarily with single-family residential development. Santa Rosa Creek, which is a tributary of the Russian River, and natural open space with grassland and some riparian areas are also located to the west of Melita Road. Melita Road connects the project site to Los Alamos Road and Sonoma Highway (Exhibit 3.9-1).

Sonoma Highway forms the northern border of the site. The area to the north is rural and contains unincorporated county land to the northeast and is characterized by very low-density residential development and sparse agriculture operations such as vineyards. The northwest corner of the site is adjacent to a low-density residential development on Susan Road and Brand Road.

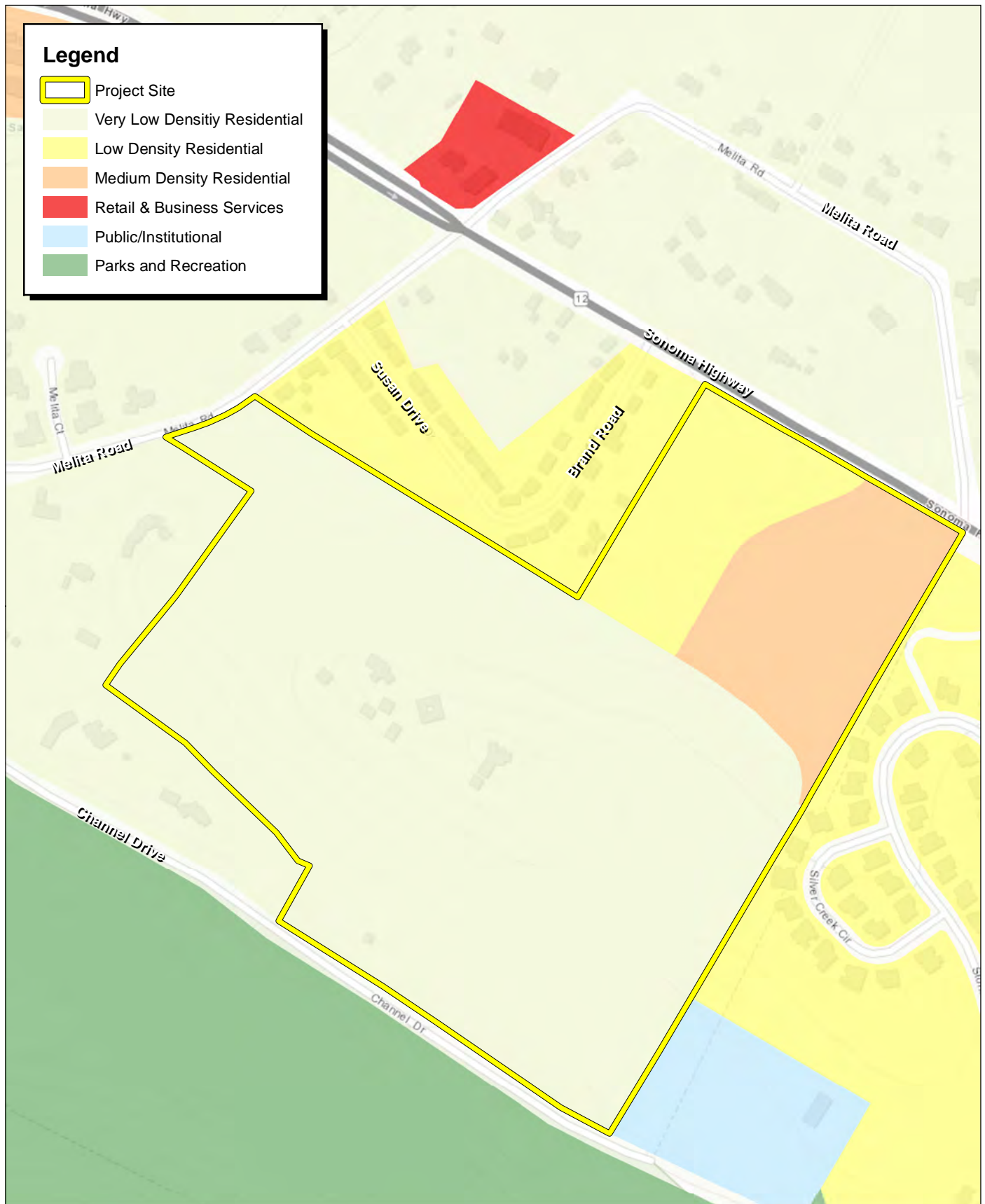
Oakmont Village Association, a planned retirement community, which is comprised mostly of single-family homes with a post office, fire station, golf course, and commercial retail center, borders the east side of the development site. A decommissioned sewer treatment facility, owned by the City of Santa Rosa, is located at the southeast corner bordering of the site.

Oakmont Creek and Annadel Creek are located in the southern portion of the project site and include riparian areas with trees and thick vegetation. Trione-Annadel State Park is located to the south of the project site, along with several single-family homes along Channel Drive. Trione-Annadel State Park, which is approximately 5,000 acres, offers recreational opportunities that range from hiking and mountain biking trails to fishing and camping.

Project Site

The approximately 68.73-acre project site is mostly undeveloped and characterized by a steep ridgeline running east to west in the center, as shown in Chapter 2, Project Description, Exhibits 2-3 and 2-9. As shown on Exhibit 2-4, there are four creeks also located on-site. The western portion of the project site contains a section of Melita Creek and an access driveway leading to the remnants of the three single-family residences that were destroyed in the Glass Fire in October 2020.

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The northeastern portion of the project site was previously graded for a past project that never came to fruition; a bridge over the South Fork of Melita Creek was constructed as part of the prior project.

As shown on Exhibit 2-6, the General Plan land use designations applicable to the site are Very Low Density Residential (VLD), Low Density Residential (LD), and Medium Density Residential (MD). The site is zoned primarily PD 93-002-RC (Planned Development within a Resilient City overlay) with the exception of 6160 Sonoma Highway, APN 031-050-062, which is zoned R-3-18-RC (Multi-family Residential, within a Resilient City overlay), as shown on Exhibit 2-7. In addition, parcels located adjacent to Sonoma Highway (APNs 031-050-062 and 031-050-061) have a -SR (Scenic Road) combining district. The existing PD 93-002 was adopted in the mid-1990s as part of a previous development proposal that was not constructed.

3.9.3 - Regulatory Framework

Federal

No federal plans, policies, regulations, or laws related to land use and planning are applicable to the project.

State

No State plans, policies, regulations, or laws related to land use and planning are applicable to the project.

Regional

Plan Bay Area and Regional Housing Needs Plan

The Plan Bay Area, published by the Metropolitan Transportation Commission and Association of Bay Area Governments (ABAG), is a long-range integrated transportation and land use/housing strategy through 2040 for the Bay Area. The Plan Bay Area functions as the sustainable communities' strategy mandated by Senate Bill 375. In July 2013, ABAG adopted the final Regional Housing Needs Plan for the San Francisco Bay Area: 2015–2023 (Regional Housing Needs Plan)¹. According to this plan, Santa Rosa's projected housing need from 2015 to 2023 is 5,083 residential units, consisting of:

- 1,041 units within the very-low-income level (0–50 percent of area median income);
- 671 units within the low-income level (51–80 percent of area median income);
- 759 units within the moderate-income level (81–120 percent of area median income); and
- 2,612 units within the above-moderate-income level (more than 120 percent of area median income).

The jurisdictional allocation for Santa Rosa translates into an average annual need for approximately 635 net new residential units.

According to the Annual Review 2019 General Plan Actions and Housing Element Update² a total of 447 residential building permits were issued in 2019, reducing the total housing need to 3,332.

¹ Association of Bay Area Governments (ABAG). 2013. Regional Housing Needs Plan for the San Francisco Bay Area: 2015-2023. July.

² City of Santa Rosa. 2019. Annual Review 2016 General Plan Actions and Housing Element Update City Council and Planning Commission Report. April 13.

Local

Santa Rosa General Plan 2035

State law requires that each city and county in California prepare a general plan. A general plan is a comprehensive, long-term plan for the physical development of the city. State requirements call for general plans that comprise an integrated, internally consistent, and compatible statement of policies for the adopting agency. In addition, the general plan must address seven required elements: Land Use, Open Space, Conservation, Housing, Circulation, Noise, and Safety. The city or county can also include other elements, such as Community Design or Air Quality, according to that community's values and priorities.

In November 2009, the City adopted the Santa Rosa General Plan 2035, which includes land use designations, goals, objectives, and policies. The General Plan Land Use Diagram illustrates land use designations throughout the City planning area. The Housing Element was updated in 2014, and included the planning period 2015-2023, and incorporated policies to promote housing that meets the needs of the City's population (see Table 3.9-3 for a listing of General Plan policies relevant to this analysis).

In 1996, Santa Rosa voters approved a 20-year Urban Growth Boundary (UGB) measure. The UGB encompasses a 45-square-mile area and includes incorporated and unincorporated land (General Plan EIR, Figure 3.2, Planning Boundaries). A wide range of existing land uses characterizes the planning area, with approximately 16 percent of the land within the UGB being vacant. According to the General Plan 2035, residential land uses constitute approximately 50 percent of the City's acreage within the UGB. On the east side of the City, in the project vicinity, the UGB runs parallel to Sonoma Highway and Trione-Annadel State Park's northern border as shown in Exhibit 2-2.

Policies and land use regulations in the Santa Rosa General Plan 2035 help to ensure orderly growth and development throughout the City's sphere of influence. The City implements the General Plan 2035 through development standards set forth in the Zoning Ordinance and the Design Guidelines. The project site is located in the southeastern portion of Santa Rosa, and is within city limits and the City's UGB. General Plan 2035 designated the project site for VLD, LD, and MD residential land uses and the Zoning Ordinance allows a Community Care Facility, defined by the Zoning Ordinance as a facility, place, or building that is maintained and operated to provide non-medical residential care, which may include home finding and other services, for children and/or adults, including: the physically handicapped; mentally impaired, mentally disordered, or incompetent; developmentally disabled; court wards and dependents; neglected or emotionally disturbed children; the addicted; and the aged.

Community care facilities offering services to seven clients or more are permitted in areas designated and zoned for residential development through approval of a minor Conditional Use Permit, unless located in Priority Development Areas (PDAs) or the Downtown Core where they are permitted by right. The General Plan Housing Element further encourages housing development that accommodates or otherwise provides housing for the elderly. In light of population characteristics and housing trends, the City developed General Plan Policies H-D-1 through H-D-4 that describes the City's efforts to address the housing needs of the elderly. General Plan Policy LUL-

E-3 seeks to avoid concentrating multiple separate community care facilities in a given residential neighborhood.

- H-D-1: Continue existing programs for persons with special needs, including disabled persons, developmentally disabled persons, elderly, homeless, large families, single parent households, and farmworkers. Programs include the Section 8 Housing Choice Voucher Rental Assistance Program and funding for services and organizations through the use of Community Development Block Grant and HOME funds. When funding is available, serve households with special needs through the Housing Rehabilitation and Conservation Program and the Community Housing Development Organization (CHDO).
- H-D-2 Ensure that new units are appropriate for households with special needs by conditioning new multifamily construction to meet federal and state requirements for accessibility and/or adaptability for disabled persons.
- H-D-3 Evaluate issues of “visitability” in residential building design and develop a program for implementation of appropriate policies and/or standards.
- H-D-4 Investigate and promote incorporation of universal design features in new residential construction by developing an ordinance based on the state’s voluntary model ordinance.
- LUL-E-3 Avoid concentration of large community care facilities in any single residential neighborhood.

Bicycle and Pedestrian Master Plan

The Elnoka site has been identified in both the City of Santa Rosa Bicycle and Pedestrian Master Plan Update 2018 and the 2016 Sonoma Valley Trail Feasibility Study as a potential location for implementation of a regional trail connecting Sonoma Highway with park facilities south of the site. As identified in these respective plans, this trail could potentially connect from Sonoma Highway to Trione-Annadel State Park via Channel Drive, and/or connect to Melita Road for travel to adjacent parks via Melita Road and Montgomery Drive.

To be consistent with the City of Santa Rosa Bicycle and Pedestrian Master Plan, completion of a Trail Feasibility Study (Study) was required to evaluate options for the connection from Sonoma Highway to Channel Drive, with direction to consider options both avoiding the project site and not avoiding the project site. The Study, prepared by Questa Engineering Corp., dated February 13, 2021, evaluates options for incorporating this regional trail connection into the proposed project. This includes a discussion of applicable public plans, including site constraints and benefits associated with trail implementation, trail design, an assessment of potential trail routes, and potential modifications needed to the proposed Elnoka site plan in order to implement a trail, and complete the desired connection to Channel Drive. The Study concluded with three recommendations:

- Provide public access trail facilities as part of the development, consistent with the Santa Rosa General Plan 2035, Bicycle and Pedestrian Master Plan, and Santa Rosa Citywide Creek Master Plan.

- Consider trail construction access and infrastructure needs when evaluating the Elnoka site development plan and easement needs, and incorporate trail construction components into project development plans where appropriate.
- Consider emergency access needs and opportunities in trail design.

While this analysis is not required for California Environmental Quality Act (CEQA) compliance, it will inform the conditions imposed by the City. No connection is currently proposed as part of the Elnoka Continuing Care Retirement Community (CCRC).

Citywide Creek Master Plan

In August 2013, the City Council adopted the Santa Rosa Citywide Creek Master Plan.³ The Master Plan helps to implement General Plan 2035 policies contained in OSC-E through OSC-H by providing guidelines for the care, management, restoration, and enhancement of nearly 90 miles of creeks in Santa Rosa, including those located within the project site. The Master Plan is intended for use by City and county staff when planning creek enhancement and restoration activities, coordination and expansion of creek side trail systems, making broader land use planning decisions concerning creeks, and in the development approval process for projects proposed adjacent to a waterway.

Santa Rosa Zoning Code

The project includes an update to the existing Planned Development's Policy Statement and rezoning of APN 031-050-062 from R-13-18-RC to PD 03-0002-RC. The zoning regulations applicable to the are described in detail below.

Community Care Facility Definition and Permitted Locations

Per Zoning Code Chapter 20-70, a Community Care Facility is defined as “a facility, place, or building that is maintained and operated to provide non-medical residential care, which may include home finding and other services, for children and/or adults, including: the physically handicapped; mentally impaired, mentally disordered, or incompetent; developmentally disabled; court wards and dependents; neglected or emotionally disturbed children; the addicted; and the aged.”

Zoning Code Chapter 20-42.060 indicates that a Community Care Facility “shall not be located closer than 300 feet in all directions from any other Community Care Facility, as measured from any point on the exterior walls of both structures. In no case shall a residential parcel be directly abutted by community care facilities on two or more sides.” Overconcentration is defined as “wherever two or more Community Care Facilities would be located at a distance of 1,000 feet or less from each other, as measured from any point upon the outside walls of the structures housing the facilities.” In other words, community care facilities cannot be located within 300 feet of another Community Care Facility and may be located within 1,000 feet of another facility only if mitigated properly.

³ City of Santa Rosa. 2018. Santa Rosa Citywide Creek Master Plan. August 2013. Website: <https://www.srcity.org/DocumentCenter/View/13792/Santa-Rosa-Citywide-Creek-Master-Plan-PDF>. Accessed May 2019.

Community care facilities are allowed in most zoning districts and all residential zoning districts with the approval of a minor Conditional Use Permit if it will provide services to seven or more clients.

Planned Development Zoning District

The purpose of the PD District is to allow flexibility in site design as long as the use and density are consistent with the General Plan. Section 20.26.060 establishes requirements for rezoning a property into a PD Zoning District as well as making modifications to an approved Policy Statement and Development Plan for an existing planned development. Section 20.26.060 sets forth minimum site acreage as well as application requirements, which include a Project Description, a site features map, infrastructure, a Policy Statement, and a Development Plan. The current Planned Development Zoning District No. 93-002 was created in 1993 for the formerly proposed Santa Rosa Lifecare project, which was never constructed.

The current Policy Statement requires a Conditional Use Permit to revise the Policy Statement; however, pursuant to Zoning Code Chapter 20-26, a request to modify, change or revise any approved Development Plan and/or Policy Statement shall be processed in the same manner as any other zone change application (Rezoning). Accordingly, the project includes a Rezoning application to allow changes to the previously approved Policy Statement and Development Plan. In addition, the project includes rezoning of 6160 Sonoma Highway, APN 031-050-062, currently zoned R-3-18, to include it into the PD District No. 93-002.

The Design Review Board must review the Policy Statement and Development Plan and make recommendations prior to the Planning Commission and City Council review and decision. Once approved, all proposed development within a PD district must comply with the approved Policy Statement and Development Plan. Future modifications can be authorized pursuant to current Zoning Code requirements.

Senior Housing Combining District The Senior Housing (-SR) combining district is intended to create a new zoning district for senior housing and to provide a process through which property may be rezoned specifically as housing for older persons in compliance with Federal and State Fair Housing Law by establishing a clear set of requirements. Those requirements include:

- Age restrictions for occupants;
- Notification (signage, advertising, covenant, regulations and restrictions, and leases) requirements
- Senior housing regulatory agreement
- Biennial verification to confirm status as senior housing

Scenic Road Combining District

Three on-site parcels located adjacent to Sonoma Highway (APNs 031-050-062, 031-050-0710 and 031-050-061) are included in the -SR (Scenic Road) combining district included under Zoning Code 20-28.050. The purpose of the -SR combining district is to enhance and preserve the natural and

constructed features that contribute to the character of scenic roads. Trees, rock walls, view corridors, road configuration, and tree canopy are listed as natural and constructed features therein.

Zoning Code 20-28.050 establishes the following development regulations applicable to the project:

- Minimum set back of 50 feet to back-on fencing or one-story structure with a maximum height not exceeding 25 feet;
- Minimum setback of 100 feet to a two-story structure or one-story with height over 25 feet;
- Non back-on fences and walls, hedges, swimming pools, uncovered parking, uncovered decks, gazebos, and other decorative type accessory structures need only comply with the setbacks and other standards of the primary zoning district;
- Require back-on landscaping to include dense planting of coniferous tree and shrubs to screen development from view from Sonoma Highway.
- Special care shall be taken to preserve the maximum number of trees possible, including exempt trees. Prior to the approval of a project the applicant shall demonstrate that each tree proposed for removal shall not have a negative impact on the scenic quality of the corridor, or that the tree is a hazard or unhealthy, as determined by a certified arborist.

Resilient City Applicability

In 2018, the City created the RC (Resilient City) combining districts (Zoning Code Chapter 20-28-100) to facilitate the reconstruction of areas impacted by the Tubbs and Nuns fires of October 2017. The project site was included in the -RC combining district after all structures, including single-family residences, were destroyed in the Glass Fire (October 2020). As such, the regulations of the -RC combining district now apply.

The City also adopted Resilient City Development Measures (Zoning Code Chapter 20-16) in 2018, which are intended to address housing needs and economic development within the City following the Tubbs and Nuns fires of October 2017. Per the Resilient City Development Measures (Zoning Code Chapter 20-16.060(A)(2)), community care facilities with seven or more clients are a permitted use if located in a PDA or the Downtown Core.⁴ Since the project is not within either a PDA or the Downtown Core, a minor Conditional Use Permit is required.

Creekside Development

Chapter 20.30.040 of the Zoning Code establishes requirements for development near a creek. This section requires minimum setbacks from waterways for new structures, to provide reasonable protection to owners of riparian property and the public from the hazards of stream bank failures and flooding, while allowing owners of property near waterways reasonable use of and the opportunity to improve their properties consistent with general safety. Requirements include a setback area on each side of a natural or modified natural waterway of 50 feet from the top of the highest bank on that side of the waterway, as determined by the Director. No structure, including buildings of any type; swimming pools, including prefabricated swimming pools; driveways; streets;

⁴ City of Santa Rosa. 2018. Resilient City Development Measures. Zoning Code Chapter 20-16. Website: <https://www.srcity.org/2802/Resilient-City-Development-Measures>. Accessed May 2019.

parking areas; patios; platforms; decks; fences; liquid storage tanks; mobile homes; broken concrete rubble; earth fill or other structural debris fill; or retaining walls are allowed within the setback. However, bridges for motor vehicles, pedestrians, and/or bicycles, and/or public utility infrastructure may cross through a waterway setback area and over or under its channel, provided that the installation has received all required approvals from the City. The revised Policy Statement for PD No. 93-002 complies with these setback requirements.

Hillside Development

Chapter 20-32 of the Santa Rosa Zoning Code is intended to preserve and enhance Santa Rosa's scenic character through respecting natural features in the design and construction of hillside development. The regulations ensure hillside development is designed to be sensitive to existing terrain, views, and significant natural landforms and features.

Tree Removal

The project is required to comply with Santa Rosa City Code Chapter 17-24, which regulates the removal, modification, and protection of trees in conjunction with development projects. It identifies a list of species and size requirements for heritage trees as well as replacement requirement for trees proposed for removal.

Because the project site is along Sonoma Highway between Calistoga Road and Oakmont, which is identified as a scenic road, it is further required to protect trees within the 100-foot setback area along Sonoma Highway, in accordance to Section 20-28.050 of the Santa Rosa Zoning Code.

3.9.4 - Impacts and Mitigation Measures

Significance Criteria

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

- a) Physically divide an established community;
- b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Approach to Analysis

The analysis in this section focuses on whether implementing the project would physically divide an established community. It also identifies whether the project would cause a significant environmental impact due to a conflict with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Conflicts and inconsistencies with a policy, in and of themselves, do not constitute significant environmental impacts, unless such conflicts or inconsistencies result in direct physical environmental impacts. The physical impacts of the project are discussed throughout this Draft EIR. Conflicts with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect are discussed in this chapter. The potential for land use impacts was assessed through review of applicable land

use policy documents. Specifically, the Santa Rosa General Plan 2035 and Santa Rosa City Code were reviewed to identify applicable policies and provisions that pertain to the project.

Impact Evaluation

Divide an Established Community

Impact LAND-1: The proposed project would not physically divide an established community.

The physical division of an established community would occur if the project would involve construction of a large linear feature such as a railroad or interstate highway or if it would involve removal of access that would impact mobility such as removal of a bridge. The project involves the development of a gated continuing care retirement community on a largely undeveloped site within Santa Rosa city limits and the City UGB. The General Plan 2035 designates the project site for residential land uses. The project does not propose the type of large linear construction that would typically impact mobility within an existing community and the surrounding area.

As described above, the General Plan 2035 envisioned redeveloping the project site with residential uses. As described in the General Plan, the following land use designations apply to the project site: VLD, LD, and MD. The proposed Elnoka CCRC, a Community Care Facility land use, is permitted within these land use designations. The Elnoka CCRC would be a private, gated community and would therefore have specific limitations on ingress and egress. The project's internal roadway system would establish general connectivity to the surrounding neighborhood with specific design and alignment parameters determined in the associated Conditional Use Permit. Roadways would be designed as private streets and would connect at Melita Road and Sonoma Highway intersections for Elnoka CCRC residents only. The project would provide bicycle and pedestrian linkages by constructing a segment of the Sonoma Valley Trail along the project's Sonoma Highway frontage. The project could also be conditioned pursuant to City Code Chapter 19-70 to dedicate park land to facilitate a future bicycle and pedestrian trail that would provide connectivity between Channel Drive and Sonoma Highway. While the size and the location of the project could be a barrier to connectivity in the larger community, the design, on-site facilities and the dedication of park land would help the project integrate and avoid becoming an impermeable barrier to connectivity. Therefore, this impact would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Conflict with Plans, Policies, or Regulations

Impact LAND-2: **The proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**

Development of the project would result in a significant impact if it would cause a significant environmental impact due to a conflict with provisions in the Santa Rosa General Plan 2035 or the Santa Rosa Zoning Code that were adopted for the purpose of avoiding or mitigating an environmental effect. As such, project consistency with the General Plan and applicable zoning is evaluated below.

Santa Rosa General Plan 2035 Consistency

The Santa Rosa General Plan 2035 designates the entire project site for residential development. The General Plan land use designations allow for MD residential development at a density of 8.0–18.0 units per acre on approximately 9.65 acres located at the northeastern section of the site; LD residential development at a density of 2.0-8.0 units per acre on approximately 6.35 acres located at the northwestern section of the site; and VLD residential development at a density of 0.2–2.0 units per acre on approximately 52 acres located on the southern portion of the site.

The project would be State-licensed and regulated as a CCRC in compliance with Chapter 10, Division 2 of the State Health and Safety Code; Title 22, Division 6, Chapter 8 of the California Code of Regulations Section 87100, *et seq.* The General Plan allows community care facilities in all residential zoning districts including multi-family units in single-family zones. Per the Zoning Code, a State-licensed CCRC falls under the land use category of Community Care Facility and is reviewed terms of concentration and intensity. Because a Community Care Facility is not considered a residential use for the purposes of determining density under the City’s General Plan and Zoning Code, density restrictions do not apply.

General Plan Policy LUL-E-3 seeks to avoid the concentration of community care facilities in any single residential neighborhood. Pursuant to Zoning Code 20-42.060(C), community care facilities cannot be located within 300 feet of another community care facility but may be located within 1,000 feet of another facility, if mitigated properly. Spring Lake Village, another progressive senior care retirement community, is located beyond 3,000 feet to the northwest, and is the closest community care facility. Therefore, the project is consistent with General Plan Policy LUL-E-3 on-site.

The project helps to achieve numerous General Plan 2035 policies that address local housing needs. General Plan Policy H-D-1 through H-D-4 commit the City to provide funding and support for development and services for people with special housing needs. The project would comply with these policies by providing a range of progressive care and services to the elderly. The project would also provide a number of community benefits outlined in Santa Rosa General Plan 2035. The community benefits are discussed in the General Plan Consistency Analysis Table 3.9-2 below. New development would be constructed in compliance with the current Building Code, ensuring energy efficiency. Generally, buildings classified as Institutional occupancy are exempt from the all-electric requirement and buildings classified as Residential occupancy that are three stories or less are not exempt.

As proposed, the project would provide connectivity and transportation options by facilitating access to nearby trails, bike paths, and local transit routes, and would construct a segment of the Sonoma Valley bicycle/pedestrian trail improvements along the project frontage. In compliance with the City's Bicycle and Pedestrian Master Plan 2018, project analysis included a Trail Feasibility Study, prepared by Questa Engineering Corp, dated February 13, 2020, that considered several options to connect Sonoma Highway to Channel Drive. The report concluded that, "In order to provide a trail connection consistent with City and County plans, site plan modifications would be needed to allow a continuous trail that meets state and federal accessibility guidelines. To accommodate a Channel Drive connection, these plan modifications would primarily occur on the eastern perimeter of the property. Accordingly, the project could be conditioned to dedicate park land for a bicycle and pedestrian trail connecting Channel Drive and Sonoma Highway, allowing a direct connection between Sonoma Highway and Channel Drive. All these project components would foster the intent of General Plan 2035 Policies LUL-A, LUL-A-1, LUL-E, UD-G, and UD-G-2 and T-H-7.

As discussed below, Table 3.9-1 summarizes the project's general consistency with applicable goals and policies of Santa Rosa General Plan 2035 adopted for the purpose of avoiding or mitigating an environmental effect. Consistency with the General Plan would occur in combination with implementation of all mitigation measures identified in this Draft EIR.

Table 3.9-1: General Plan Consistency Analysis

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
2—Land Use	Goal LUL-A	Foster a compact rather than a scattered development pattern in order to reduce travel, energy, land, and materials consumption while promoting greenhouse gas (GHG) emission reductions citywide.	Consistent: The project would result in compact development because it would not expand roads, and as infill development within the City's limits and UGB, it would not result in significant travel, energy, or land consumption. Specifically, the project would offer approximately 12 units of on-site employee housing that would reduce employee vehicle trips, and would also involve the construction of a bike/pedestrian trail along the Sonoma Highway frontage that could be used by residents and employees while also serving regional walking and biking users. The project could also be required to dedicate park land to facilitate a future bicycle and pedestrian trail connection from Channel Drive and Sonoma Highway.
	Policy LUL-A-1	As part of plan implementation including—development review,	Consistent: The project would be a self-contained community with

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
		capital improvements programming, and preparation of detailed area plans—foster close land use/transportation relationships to promote use of alternative transportation modes and discourage travel by automobile.	recreational facilities, internal roads and walkways, and gated access. The project would also provide on-site services including a café, beauty salon, banking services, business center, fitness center, and media room. The facility would provide access to a proposed regional bike/pedestrian path located at the front of the site. Shuttle service would be provided to transport project residents for appointments and errands, and approximately 12 units of on-site employee housing will be provided to reduce employee vehicle trips. Furthermore, the project would have access to Sonoma County Transit regional Bus Service. As a result, the project is consistent with this policy.
	Goal LUL-E	Promote livable neighborhoods by requiring compliance with green building programs to ensure that new construction meets high standards of energy efficiency and sustainable material use. Ensure that everyday shopping, park and recreation facilities, and schools are within easy walking distance of most residents.	Consistent: The project would be required to comply with the applicable building code standards, including green building standards. In addition, the project would provide recreational facilities and nature paths along Oakmont Creek all located on-site and within walking distance of all residents. Shuttle service would be provided to transport elderly project residents for appointments and errands, and the project would provide bike/pedestrian recreational opportunities with installation of a bike/pedestrian path along the Sonoma Highway frontage. The project can also be required to dedicate park land to facilitate a future bicycle and pedestrian trail connection from Channel Drive and Sonoma Highway. Therefore, the project would be consistent with this goal.
	Policy LUL-E-2	As part of planning and development review activities, ensure that projects, subdivisions, and neighborhoods are designed to foster livability.	Consistent: The project would use drought-tolerant landscaping and street design to create a safe, visually appealing neighborhood. The project plans to provide a mix

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
			of housing types, including employee housing. The project would be connected to local streets to allow residents access to downtown and local shops, and may include multiple on-site amenities including a café, beauty salon, banking services, business center, fitness center, and media room.
	Policy LUL-E-4	Protect the rural quality of VLD areas within the UGB through design and development standards in the Zoning Code, and development review.	Consistent: The project would be consistent with applicable provisions of the General Plan 2035, in that it would be developed entirely within the City limits and UGB, would maintain setbacks and building height limits consistent with the zoning ordinance and Policy Statement, and would provide clustered development to be compatible with surrounding VLD designated areas. In addition, the project would retain approximately 75% of existing on-site trees and use the natural topography to visually screen development, as shown on Exhibits 3.1-6 through 3.1-7. Approximately twenty-four percent of the site would remain natural open space, with an additional 34 percent being maintained as landscaped open space, thus retaining the rural appearance.
	Goal LUL-F	Maintain a diversity of neighborhoods and varied housing stock to satisfy a wide range of needs.	Consistent: The project would provide a variety of housing types for seniors, including detached and attached single-family units and assisted care units.
	Policy LUL-F-3	Maintain a balance of various housing types in each neighborhood and ensure that new development does not result in undue concentration of a single housing type in any one neighborhood. Downtown is excepted.	Consistent: The project proposes 676 residential units including a mix of single-family detached units, multi-family structures, and assisted living units.
3—Urban Design	Goal UD-A	Preserve and enhance Santa Rosa’s scenic character, including its	Consistent: The project would incorporate the natural landscape

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
		natural waterways, hillsides, and distinctive districts.	into the design of the site to the extent feasible. As can be seen in Exhibits 3.1-6 through 3.1-8 and further discussed in Section 3.1 of this Draft EIR (Aesthetics), the project maintains existing views of the surrounding mountains and existing trees along the creeks and Sonoma Highway. In addition, approximately 58 percent of the site would remain as either natural open space or landscaped area. Furthermore, the project would incorporate the creeks on-site into the design by creating pathways and landscaped areas adjacent to the creek banks, as well as bridge crossings over Oakmont and Melita Creeks, all the while respecting and adhering to applicable setbacks. While the on-site hillsides would be developed, the extent, scale, and massing of the buildings would be designed in a way that allows the natural hillside and creek side backdrops to be expressed throughout the development. As discussed in Section 3.1, Aesthetics of this Draft EIR and shown in Exhibits 3.1-6 through 3.1-8, the project would retain view corridors, natural ridgelines, and landmarks.
	Policy UD-A-1	Maintain view corridors to natural ridgelines and landmarks, such as Taylor Mountain and Bennett Mountain	<p>Consistent: The project would maintain sightlines and view corridors of the surrounding ridgelines and landmarks as further discussed in Section 3.1 of this Draft EIR (Aesthetics), with the exception of alterations made to views of the on-site ridgeline as a result of on-site structures. The potential impact to on-site views is identified as a potentially significant and unavoidable impact, which would require a statement of overriding considerations.</p> <p>In addition, the project would utilize natural topography and vegetation to reduce the visual</p>

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
			impact of development. As discussed in Section 3.1, Aesthetics of this Draft EIR and shown in Exhibits 3.1-6 through 3.1-8, the project would retain view corridors, natural ridgelines, and landmarks.
	Policy UD-A-2	Strengthen and emphasize community focal points, visual landmarks, and features that contribute to the identity of Santa Rosa using design concepts and standards implemented through the Zoning Code, Design Guidelines, Preservation District Plans, Scenic Roads policies, the Downtown Station Area Specific Plan, and the Citywide Creek Master Plan.	Consistent: The project would maintain the creeks and riparian areas consistent with the Citywide Creek Master Plan. In addition, the project would maintain views of the Trione-Annadel State Park and protect the scenic corridor on Melita Road. Furthermore, the project would upgrade the current streetscape along Sonoma Highway with landscaping. However, as indicated in Section 3.1 of this Draft EIR (Aesthetics) the project would alter views as seen from Los Alamos Road, a designated Scenic Road. The potential impact to on-site views is identified as a potentially significant and unavoidable impact, which would require a statement of overriding considerations.
	Policy UD-A-4	In new developments, minimize overall grading by limiting site grading to the minimum necessary for driveways, parking areas, and understructure areas.	Consistent: The north side of the project site currently has slopes in excess of 25 percent due to a previous site grading. Implementation of the project would result in the creation of a more natural slope that would help to reduce sedimentation and runoff volume. Project grading activity would be minimized to the greatest extent possible and would not occur within 50 feet of the top of bank of creeks, and would be consistent with the project's Hillside Development Permit.
	Policy UD-A-8	Maintain hillsides in the city as a scenic backdrop to urban development.	Consistent: The project would maintain views of surrounding, offsite mountains. While the project would alter views of the on-site ridgeline as seen from Los Alamos Road, as can be seen in Exhibits 3.1-

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
			6 through 3.1-8, the project would utilize natural features as backdrops and natural vegetation as screening. on-site Nevertheless, the potential impact to on-site views is identified as a potentially significant and unavoidable impact, which would require a statement of overriding considerations.
	Policy UD-A-9	Prohibit development on hillsides and ridgelines where structures would interrupt the skyline	Consistent: As can be seen in Exhibits 3.1-6 through 3.1-8, the project would not develop on the top of hillsides or ridgelines where structures would interrupt skyline views of the surrounding mountains. In addition, the project would use natural topography and vegetation as screening to limit public views of the site development, and would otherwise be constructed in compliance with Hillside Development regulations, pursuant to Zoning Code Chapter 20-32. While the project would alter views of the on-site ridgeline, as seen from Los Alamos Road, the mountain range backdrop minimizes the impact. Nevertheless, the potential impact to on-site views is identified as a potentially significant and unavoidable impact, which would require a statement of overriding considerations.
	Goal UD-C	Enhance and strengthen the visual quality of major entry routes into the city, as well as major corridors that link neighborhoods with downtown.	Consistent: The project would strengthen the visual quality of the site by creating an attractive, cohesive development with abundant landscaping and screening elements, and would comply with all applicable City setback, building height, and design requirements. Sonoma Highway is a major entry route into the City and the project would enhance the visual quality, as discussed more fully in Section 3.1 of this Draft EIR (Aesthetics).
	Policy UD-C-1	Enhance the appearance of the City's major entries through special	Consistent: The project would enhance the Sonoma Highway

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
		design criteria and streetscape improvements.	corridor through unified landscaping and framing views of the Trione-Annadel State Park as a background.
	Goal UD-F	Maintain and enhance the diverse character of Santa Rosa's neighborhoods. Promote the creation of neighborhoods—not subdivisions—in areas of new development.	Consistent: The project would create a community for its residents by integrating, recreational centers, meeting rooms, outdoor walking paths, landscaped areas and other amenities, which would provide areas for the residents to interact. In addition, the project retains approximately 58 percent of the site as open/natural space and landscaped area, providing far more natural land and park space than a standard housing subdivision.
	Policy UD-F-2	Protect natural topographic features such as hillsides, ridgelines and mature trees and stands of trees. Minimize grading of natural contours in new development.	Consistent: The project would limit construction on the natural ridgeline on-site. In addition, the project plans to retain approximately 75 percent of the trees on-site. Furthermore, the project would minimize grading to the extent feasible to keep the existing contour of on-site hillsides consistent with the project's Hillside Development Permit.
	Policy UD-F-4	Provide visual interest in building, site, and landscape design that avoids the sense of a monotonous tract development	Consistent: The project would include drought-tolerant landscaping and develop homes consistent with applicable provisions of the Hillside Development Ordinance and applicable Design Guidelines. In addition, the project would integrate the natural landscape into the design by incorporating creeks, trees, and natural space into the project, retaining approximately 75 percent of existing on-site trees, and providing abundant landscaping throughout the project.
	Goal UD-H	Design hillside development to be sensitive to existing terrain, views, and significant natural landforms or features.	Consistent: As discussed in Section 3.1, Aesthetics, of this Draft EIR, the project uses thoughtful design to respect the site's natural topography and natural features. In addition, the project would

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
			comply with applicable provisions of the General Plan 2035 and retain all significant views and features, such as ridgelines, through incorporation into the design. For example, all the cottages would be single-story and nestled into the on-site hillside to limit visual impacts. The project plans to leave the area around the creeks undeveloped as part of the planned approximately 24 percent of natural open space with an additional 34 percent as landscaped open space. In addition, the project would be required to have setbacks of 50 feet from the three creeks on-site in order to comply with the Creekside Development Measure in the General Plan 2035.
	Policy UD-H-1	Minimize the visual prominence of hillside development by taking advantage of existing site features for screening, such as tree clusters, depressions in topography, setback hillside plateau areas, and other natural features.	Consistent: As discussed in Section 3.1, Aesthetics, of this Draft EIR, the project would reduce the visual prominence of development by using vegetation and topography to shield buildings, as well as thoughtful site planning and building placement. In addition, the project would comply with applicable provisions of the Zoning Code setback requirements, and retain approximately 75% of existing on-site trees.
	Policy UD-H-3	Prohibit grading of slopes that are greater than 25 percent. During review of development plans, ensure that necessary grading respects significant natural features and visually blends with adjacent properties.	Consistent: The project site currently has slope gradients of eight horizontal to one vertical (8:1) and 4:1. The southwest portion has gradients of 5:1 and 3:1. The project would lower the previously graded slopes to appear more natural and reduce the risk of erosion, and would not grade on slopes that are greater than 25 percent (with the exception of driveway access which is allowed on slopes greater than 25 percent), and otherwise construct the project in compliance with Zoning Code Chapter 20-32.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
	Policy UD-H-6	Minimize vegetation removal in hillside areas and preserve large trees that partially screen development or help blend new development into views.	Consistent: The project would conserve approximately 75 percent of the trees on-site and would replace removed trees in accordance with the provisions of City Code Section 17-24.050.
	Goal UD-I	Respect natural features in the design and construction of hillside development.	Consistent: The project would ensure compliance with applicable provisions of the City's Hillside Development regulations and would obtain the requisite Hillside Development Permit. The site plan would respect the natural features and slopes of the site and integrate trees, creeks, and riparian areas into the design.
	Policy UD-I-1	Require mapping of all-natural features as part of development applications, including landforms, mature tree stands, rock outcroppings, creek ways, and ridgelines. During development review, ensure that site layout is sensitive to such mapped features.	Consistent: During technical surveys, the project site was mapped to identify biological resources, geologic features, and other natural features, such as mature trees, creeks, and topography. The project would keep all creeks and riparian areas intact through setbacks and integrate these areas into the design. In addition, the project would retain approximately 75 percent of the existing on-site trees. The applicant has prepared site plans that detail the location of buildings, walkways, and natural/open space areas.
	Policy UD-I-4	Use irregular planting on graded slopes to achieve a natural appearance. Maximize water conservation, fire resistance, and erosion control in landscape design through use of sturdy, native species.	Consistent: The project would, to the extent feasible, use California native and drought resistant plants to maximize water conservation and prevent erosion on graded slopes. The landscape plan provided by the applicant demonstrates the use of native plants used throughout the site.
4—Housing Element	Goal H-A	Meet the housing needs of all Santa Rosa residents.	Consistent: The project would provide 676 dwelling units.
	Policy H-A-2	Pursue the goal of meeting Santa Rosa's housing needs through increased densities, when compatible with existing neighborhoods. Development of	Consistent: Pursuant to City policy, the project would undergo design review and approval to ensure that proposed development is compatible with surrounding land

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
		existing and new higher-density sites must be designed in context with existing, surrounding neighborhoods. The number of units permitted each year and the adequacy of higher-density sites shall be reported as part of the General Plan Annual Review report.	uses. The project would provide a State-licensed CCRC. The project would also provide employee housing to serve local employees of the facility on-site. To be compatible with surrounding areas, the project site has been designed to respect existing topography, use the natural topography to visually screen development as shown on Exhibits 3.1-6 through 3.1-7 and retain approximately 75 percent of existing on-site trees. Approximately 24 percent of the site would remain natural open space, with an additional 34 percent being maintained as landscaped open space, thus exhibiting compatibility with surrounding areas.
	Goal H-C	Expand the supply of housing available to lower-income households.	Consistent: As a Community Care Facility, the project is exempt from the requirement of inclusionary housing or housing impact fees.
	Policy H-C-1	Implement the Housing Allocation Plan to increase the number of affordable units in Santa Rosa, through collection of Housing Impact Fees. Utilize fees generated for the development of housing units affordable to extremely low-, very low-, and low-income households.	Consistent: As a Community Care Facility, the project is exempt from the requirement of inclusionary housing or housing impact fees.
	Goal H-D	Provide housing for households with special needs.	Consistent: The project would integrate a care center that includes assisted living units for Elnoka CCRC residents in need of that service. In addition, the project would include different options for seniors within the community care facility to support varying degrees of independent living for aging seniors.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
5—Transportation	Policy T-A-3	Evaluate corridor Level of Service (LOS) and develop strategies to improve service levels.	Consistent: The Traffic Impact Study evaluated the Existing, Baseline, Future, and Plus-Project related impacts to corridor LOS. In addition, feasible mitigation strategies are included in the Transportation and Traffic section to improve or maintain service levels. Further information can be found in Section 3.14, Transportation, of this Draft EIR.
	Goal T-B	Provide a safe, efficient, free-flowing circulation system.	Consistent: The Traffic Impact Study evaluated traffic conditions under Existing, Baseline, Future, and Plus-Project scenarios and proposed mitigation measures to reduce impacts to the extent feasible. Further information can be found in Section 3.14, Transportation, of this Draft EIR.
	Policy T-B-2	Locate uses generating heavy traffic so that they have direct access or immediate secondary access to regional/arterial streets or highways.	Consistent: Seniors, in general, tend to generate less traffic than non-age restricted residential uses. The Traffic Impact Study identifies the main sources of traffic generated from the project residents, visitors and employees. The project provides two points of access; one to Sonoma Highway, and the other to Melita Road. Further information can be found in Section 3.14, Transportation, of this Draft EIR.
	Goal T-C	Reduce traffic volumes and speeds in neighborhoods.	Consistent: Seniors, in general, tend to generate less traffic than non-age restricted residential uses. The Traffic Impact Study identified Melita Road as an area of concern for appropriate traffic volumes and speeds. As a result, mitigation is proposed as part of this project in order to reduce volumes and speeds along Melita Road and the nearby neighborhoods to the extent feasible. Further information is provided in Section 3.14, Transportation, of this Draft EIR.
	Policy T-C-1	Minimize through traffic in residential neighborhoods and	Consistent: Proposed mitigation measures would reduce traffic

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
		avoid excessive traffic volumes greater than that dictated by street design and classification, by providing attractive regional/arterial streets to accommodate cross-town traffic.	volumes and speeds along Melita Road to the extent feasible to reflect the intended street design and classification. As a gated community, on-site roads would be used by through-traffic. Further information is provided in Section 3.14, Transportation, of this Draft EIR.
	Policy T-C-3	Implement traffic calming techniques on streets subject to high speed and/or cut-through traffic, in order to improve neighborhood livability.	Consistent: Mitigation is proposed as part of this project in order to reduce volumes and speeds along Melita Road. Further information is provided in Section 3.14, Transportation, of this Draft EIR.
	Goal T-D	Maintain acceptable motor vehicle traffic flows.	Consistent: The project would implement all feasible mitigation measures to reduce traffic impacts that affect traffic flows.
	Policy T-D-1	Maintain a Level of Service (LOS) D or better along all major corridors.	Consistent: Physical improvements have been identified, which if implemented, would ensure LOS levels are at D or better. However, as indicated in Section 3.14, Transportation, of this Draft EIR, the identified improvements would require approval by California Department of Transportation (Caltrans), which is beyond the purview of the City. Further discussion is provided in Section 3.14, Transportation, of this Draft EIR.
	Goal T-G	Identify, preserve, and enhance scenic roads throughout Santa Rosa in both rural and developed areas.	Consistent: The project would use setbacks and landscaping to preserve and enhance Sonoma Highway. As discussed in Section 3.1, Aesthetics, the project would alter distant views of the site as seen from Los Alamos Road, a scenic road. However, proposed landscaping, trees, and shrubs would enhance screening throughout the project site and minimize the visual impacts of the buildings and homes. Over 58 percent of the site would be left as natural open space and landscaped area. Over 75 percent of the trees

Element	Goal/Objective/Policy		Consistency Determination
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			on-site would also remain in place. Combined, these design features would help to reduce the visual changes to the project site as viewed from Los Alamos Road.
	Goal T-H-7	Require community care facilities and senior housing projects with more than 25 units to provide accessible transportation services for the convenience of residents.	Consistent: The project would be required to provide accessible transportation services for the convenience of residents.
6—Public Services and Facilities	Goal PSF-A	Provide recreational facilities and parks for all sectors of the community.	Consistent: The project would provide sport courts, meeting halls, and a pool for seniors and their families and other guests as part of the private amenities for the project. The project can also be required to dedicate park land to facilitate a future bicycle and pedestrian trail connection from Channel Drive and Sonoma Highway.
	Policy PSF-A-1	Provide recreation and park facilities and services needed by various segments of the population—including specific age groups, persons with special physical requirements, and groups interested in particular activities—and make these facilities and services easily accessible and affordable to all users.	Consistent: The project would provide Elnoka CCRC residents access to recreational facilities on-site. These facilities would be designed for senior citizens and offer group activities and exercises to serve the residents, as well as their families and other guests while visiting. The project can also be required to dedicate park land to facilitate a future bicycle and pedestrian trail connection from Channel Drive and Sonoma Highway.
	Goal PSF-I	Manage, maintain, and improve stormwater drainage and capacity	Consistent: Currently, the site is mostly undeveloped and contains minimal stormwater infrastructure. The project would manage stormwater runoff and reduce runoff volume through bioretention areas, permeable pathways, and connecting to City stormwater systems, in accordance with all applicable standards and requirements. A standard condition of approval requires compliance

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
			with current Low Impact Development (LID) standards.
	Policy PSF-I-1	Require dedication, improvement, and maintenance of stormwater flow and retention areas as a condition of approval.	Consistent: The project would improve current stormwater infrastructure by implementing bioretention areas and retaining approximately 58 percent of the site as natural open space and landscaped areas in order to encourage groundwater recharge and reduce runoff volume.
	Policy PSF-I-2	Require developers to cover the costs of drainage facilities needed for surface runoff generated as a result of new development.	Consistent: The project applicant would be required to cover the costs of necessary drainage facilities to accommodate surface runoff generated as a result of the project.
	Policy PSF-I-3	Require erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity, and protect water quality.	Consistent: The project would use Best Management Practices (BMPs) during construction to reduce erosion and sedimentation. Once operational, the project would integrate bioretention areas to reduce peak runoff flow in accordance with all applicable standards and requirements.
	Policy PSF-I-4	Require measures to maintain and improve the storm drainage system, consistent with goals of the Santa Rosa Citywide Creek Master Plan, to preserve natural conditions of waterways and minimize paving of creek channels.	Consistent: The project would be consistent with the Citywide Creek Master Plan and implement 50-foot setbacks from the banks and preserve all creek habitat. In addition, the project would include stormwater systems, such as bio retention areas, to reduce peak stormwater flows, in accordance with all applicable standards and requirements.
	Policy PSF-I-8	Implement the Standard Urban Storm Water Mitigation Plan (SUSMP) in order to reduce pollutants and runoff s flows from new development and significant redevelopment projects.	Consistent: The project would be consistent with Objectives SW-1 and SW-2 by implementing setbacks to preserve the hydraulic capacity of the creeks. In addition, the project would implement the Storm Water Low Impact Development Technical Design Manual (LID Manual) to reduce and mitigate water quality impacts from development in

Element	Goal/Objective/Policy		Consistency Determination
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			accordance with all applicable standards and requirements.
7—Open Space and Conservation	Goal OSC-B	Conserve the City's open spaces and significant natural features.	Consistent: The project would retain approximately 24 percent of the site as natural open space, as well as an additional approximately 34 percent of the site would remain as landscaped space.
	Policy OSC-B-1	Prohibit development on hillsides and ridgelines where structures would interrupt the skyline.	Consistent: The project has been designed to adhere to hillside/ridgeline preservation policies and requirements, protecting views towards Trione-Annadel State Park and other surrounding ridgelines. Among other things, it would ensure that rooflines do not block the skyline or background mountains. As can be seen in Exhibits 3.1-6 through 3.1-8, project development would not interrupt the skylines from Sonoma Highway Trione-Annadel State Park. The project would result in a potentially significant impact to on-site views from Los Alamos Road, which would require a statement of overriding considerations. See Section 3.1, Aesthetics, for further information.
	Policy OSC-B-2	Minimize alteration of the topography, drainage patterns and vegetation of land with slopes of ten percent or more. Prohibit alteration of slopes greater than 25 percent.	Consistent: The project would adhere to all applicable policies and requirements regarding hillside development. Among other things, the project would refine the previous grading of the site completed as part of a prior project that did not move forward; the proposed grading would create a more natural-looking site while limiting grading to only the areas needed. In addition, the project would retain approximately 75 percent of the trees on-site; would keep approximately 24 percent of the site as natural open space; and would maintain an additional approximately 34 percent of the site

Element	Goal/Objective/Policy		Consistency Determination
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			as landscaped area. See Section 3.1, Aesthetics, for further information.
	Policy OSC-B-3	Require that new subdivisions, multifamily, and non-residential development abutting creek corridors are appropriately designed with respect to the creek. Development may orient toward the creek as an amenity, but adequate setbacks shall be used to ensure riparian habitat is protected.	Consistent: The project would be consistent with the Santa Rosa Citywide Creek Master Plan and the Zoning Code in terms of required creek setbacks. The Elnoka CCRC Policy Statement requires a 50-foot setback from the top of bank to ensure the riparian habitat is protected.
	Policy OSC-B-4	Require that graded areas within new developments be re-vegetated.	Consistent: The project would re-vegetate all graded areas as part of the project design. In addition, the project would retain approximately 75 percent of existing on-site trees; would retain approximately 24 percent of the site as natural open space; and would landscape approximately 34 percent of the site.
	OSC-B-5	Require a Hillside Development Permit as part of a proposed subdivision, proposed development or new land use on that portion of a site with a slope of 10 percent or greater (see Figure 7-3: Slope and Ridgelines).	Consistent: The project applications include a Hillside Development Permit. Any future development proposed would be subject to Hillside Development regulations, pursuant to Zoning Code Chapter 20-32.
	Goal OSC-D	Conserve wetlands, vernal pools, wildlife ecosystems, rare plant habitats, and waterways.	Consistent: As indicated in Section 3.3, Biological Resources, there are no wetlands, vernal pools, or protected plant species habitats on-site. In addition, the project would preserve all creek and riparian areas and integrate natural open space areas into the design.
	Policy OSC-D-3	Preserve and restore the elements of wildlife habitats and corridors throughout the Planning Area.	Consistent: The project would preserve all riparian areas on-site. The project would retain approximately 75 percent of the existing on-site trees, and would retain approximately 24 percent of the site as natural open space with an additional approximately 34 percent being landscaped area. Tree replacement must be done in compliance with the Tree Ordinance, City Code Chapter 17-24.

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	Policy OSC-D-9	Ensure that construction adjacent to creek channels is sensitive to the natural environment. Ensure that natural topography and vegetation is preserved along the creek, and that construction activities do not disrupt or pollute the waterway.	Consistent: The project would be required to implement a SWPPP as part of the National Pollutant Discharge Elimination System (NPDES) permit in order to prevent pollution and sedimentation along the creeks.
	Policy OSC-D-11	New development along channelized waterways should allow for an ecological buffer zone between the waterway and development. This buffer zone should also provide opportunities for multi-use trails and recreation.	Consistent: The project Policy Statement requires a 50-foot setback from top of bank for all creeks within the project boundary. In addition, creek areas would remain as natural open space integrated into the design of the project.
	Goal OSC-E	Ensure local creeks and riparian corridors are preserved, enhanced, and restored as habitat for fish, birds, mammals and other wildlife.	Consistent: The project would preserve the creeks and riparian areas on the site. In addition, these areas would be left as natural open space and integrated into the project's design.
	Policy OSC-E-1	Maintain creek areas using practices that protect and support fish and wildlife as well as help retain hydraulic capacity.	Consistent: The project would preserve creek areas and incorporate required setbacks, which would protect wildlife habitat, pursuant to Zoning Code Section 20-30.040. In addition, the areas would remain natural open space throughout operation.
	Goal OSC-F	Construct trail corridors and other recreational opportunities along local waterways.	Consistent: The project would integrate the creeks and riparian areas into the design of the landscaped areas including paths and walkways, while maintaining the required setbacks. The project can also be required to dedicate park land to facilitate a future bicycle and pedestrian trail connection from Channel Drive and Sonoma Highway.
	Policy OSC-F-2	Cooperate with various public and private entities to create new public access trails along creeks to parks and open spaces within the UGB, as well as connections to regional trail systems.	Consistent: The project proposes on-site pedestrian linkages and trails for residents and guests. Private walking paths would be interspersed throughout the project site and connect residents to natural open space areas. A publicly accessible Class II bicycle/pedestrian trail would also

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			be included along Sonoma Highway project frontage. In addition, the project prepared a Trail Feasibility Study to assess the potential for a Channel Drive trail connector, consistent with the City Bicycle and Pedestrian Master Plan. The project can also be required to dedicate park land to facilitate a future bicycle and pedestrian trail connection from Channel Drive and Sonoma Highway.
	Goal OSC-H	Conserve significant vegetation and trees and plant new trees.	Consistent: The project would conserve approximately 75 percent of all trees on-site and would plant new trees consistent with the requirements of the City of Santa Rosa Tree Removal Permit to replace trees removed during development.
	Policy OSC-H-1	Preserve trees and other vegetation, including wildflowers, both as individual specimens and as parts of larger plant communities.	Consistent: The project would preserve tree and plant communities where feasible and in compliance with City Code Chapter 17-24. In addition, approximately 75 percent of the trees and vegetation communities near the creeks would be preserved; the project would retain approximately 24 percent of the site as natural open space; and install new landscape on an additional approximately 34 percent of the site.
	Policy OSC-H-3	Preserve the Sonoma Highway Scenic Route in eastern Santa Rosa, including the corridor of oak trees. Encourage Caltrans to preserve the oaks on-site where possible, and to replace destroyed trees.	Consistent: The project would retain trees along Sonoma Highway to act as screening from motorists traveling along Sonoma Highway.
	Policy OSC-H-4	Require incorporation of native plants into landscape plans for new development, where appropriate and feasible, especially in areas adjacent to open space areas or along waterways.	Consistent: The project would use native plants, where feasible and appropriate, in the landscaping and integrate these landscaped areas to blend in with the natural open space.

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	Goal OSC-I	Conserve water and maintain water quality.	Consistent: The project does not propose water intensive development and would use water-conserving landscaping to reduce water use in accordance with all applicable standards and requirements.
	Policy OSC-I-4	Consider water conservation measures in the review of new residential development projects.	Consistent: The project is proposing drought-tolerant landscaping in order to reduce water use, which would be installed in accordance with all applicable standards and requirements.
	Policy OSC-I-6	Protect groundwater recharge areas, particularly creeks and riparian corridors. Identify and protect other potential groundwater recharge areas.	Consistent: The project would preserve all creek and riparian areas. In addition, the project would integrate bioretention areas to protect groundwater recharge and would retain approximately 24 percent of the site as natural open space, along with an additional approximately 34 percent of the site being maintained as landscaped areas.
	Goal OSC-J	Take appropriate actions to help Santa Rosa and the larger Bay Area region achieve and maintain all ambient air quality standards.	Consistent: The project would not conflict with the applicable Bay Area Air Quality Management District (BAAQMD) standards or the 2017 Clean Air Plan with implementation of feasible mitigation.
	Policy OSC-J-1	Review all new construction projects and require dust abatement actions as contained in the CEQA Handbook of the Bay Area Air Quality Management District.	Consistent: The project would implement fugitive dust BMPs recommended by BAAQMD for fugitive dust emissions during construction.
	Policy OSC-M-1	Meet local, regional and state targets for reduction of GHG emissions through implementation of the Climate Action Plan.	Consistent: As shown in Table 3.6-5, the project would generate approximately 3.7 metric tons (MT) carbon dioxide equivalent (CO ₂ e) per service person per year, which would exceed the adjusted threshold for Year 2030. With the incorporation of MM GHG-1 and GHG-2, potential impacts would be reduced to less than significant. As shown in Table 3.6-6, the project would be consistent with all

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			applicable policies of the Santa Rosa Climate Action Plan.
	Goal GM-A	Prevent urban sprawl by focusing growth within the UGB.	Consistent: The project is located within the UGB and, pursuant to City policy, would be developed at an intensity of use that is consistent with the General Plan 2035.
8—Urban Growth Boundary	Policy GM-A-1	Contain urban development in the Santa Rosa area within the City's UGB.	Consistent: The project site is within the City's UGB.
	Goal GM-B	Program infrastructure improvements to keep pace with new residential growth and ensure that such growth incorporates affordable housing provisions and is balanced with conservation of resources.	Consistent: As a Community Care Facility, the project is exempt from the requirement of inclusionary housing or housing impact fees.
	Policy GM-B-4	Direct growth to areas where services and infrastructure can be provided efficiently. Do not allow any development in the approximately 453-acre area generally east of Santa Rosa Avenue and north of Todd Road (as mapped in Figure 8-1), until 2010.	Consistent: The project would be located in an urban area with adequate services and infrastructure available and would be located entirely within the City's UGB.
	Goal HP-A	Protect Native American heritage.	Consistent: This Draft EIR evaluates the potential impacts on archaeological and tribal cultural resources. This is consistent with the objective of protecting Santa Rosa's Native American heritage. Refer to Section 3.4, Cultural Resources, of this Draft EIR for further discussion.
11—Historic Preservation	Policy HP-A-1	Review proposed developments and work in conjunction with the California Historical Resources Information System, Northwest Information Center at Sonoma State University, to determine whether project areas contain known archaeological resources, either prehistoric and/or historic-era, or have the potential for such resources.	Consistent: Cultural resources analysis was prepared for the project in conjunction with the California Historical Resources Information System to determine the impact to archaeological, prehistoric, and historic resources. Refer to Section 3.4, Cultural Resources, of this Draft EIR for further discussion.

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	Policy HP-A-2	Require that project areas found to contain significant archaeological resources be examined by a qualified consulting archaeologist for recommendations concerning protection and preservation.	Consistent: As a part of the DIER, the project site has been examined by a qualified consulting archeologist who provided recommendations concerning protection and preservation. Refer to Section 3.4, Cultural Resources, of this Draft EIR for further discussion.
	Policy HP-A-4	Consult with local Native American tribes to identify, evaluate, and appropriately address cultural resources and tribal sacred sites through the development review process.	Consistent: The City and the project applicant have consulted with Native American Tribes to identify and evaluate any cultural resources and tribal sacred sites through the development review process, in accordance with applicable laws and regulations. The potential for cultural and tribal cultural resources to be on-site has been addressed in Section 3.4, Cultural Resources, of this Draft EIR for further discussion.
	Policy HP-A-5	Ensure that Native American human remains are treated with sensitivity and dignity and assure compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.	Consistent: There is the potential for Native American human remains to present on-site. If found, project development would halt within the affected area and comply with identified mitigation measures and would otherwise be required to comply with applicable laws. Refer to Section 3.4, Cultural Resources, of this Draft EIR for further discussion.
	Goal HP-B	Preserve Santa Rosa's historic structures and neighborhoods.	Consistent: This Draft EIR evaluates the potential impacts on historic structures and neighborhoods. Refer to Section 3.4, Cultural Resources, of this Draft EIR for further discussion.
	Goal NS-B	Maintain an acceptable community noise level to protect the health and comfort of people living, working and/or visiting in Santa Rosa, while maintaining a visually appealing community.	Consistent: This Draft EIR's noise analysis evaluates potential construction and operational noise impacts to the surrounding areas and identifies mitigation measures. This analysis is consistent the City's goal of maintaining acceptable noise levels. Refer to Section 3.10, Noise, of this Draft EIR for further discussion.

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12–Noise and Safety	Policy NS-B-2	Encourage residential developers to provide buffers other than sound walls, where practical.	Consistent: The project would be consistent with this policy by implementing setbacks from roads and maintaining trees and other vegetation to reduce noise. Refer to Section 3.10, Noise, of this Draft EIR for further discussion.
	Goal NS-C	Prohibit development in high-risk geologic and seismic hazard areas to avoid exposure to seismic and geologic hazards.	Consistent: This Draft EIR evaluates the risk of geologic and seismic hazard areas. The project would not develop in high risk areas. Refer to Section 3.5, Geology and Soils, for further discussion.
	Policy NS-C-1	Prior to development approval, require appropriate geologic studies to identify fault trace locations within active fault zones as designated by the provisions of the Alquist-Priolo Earthquake Fault Zoning Act. California registered geologists or engineers must conduct these studies and investigation methodologies must comply with guidelines set forth by the Alquist-Priolo Earthquake Fault Zoning Act.	Consistent: The project is not located on an active fault zones as designated by the Alquist-Priolo Earthquake Fault Zoning Act. Refer to Section 3.5, Geology and Soils, for more information.
	Policy NS-C-2	Require comprehensive geotechnical investigations prior to development approval, where applicable. Investigations shall include evaluation of landslide risk, liquefaction potential, settlement, seismically-induced landsliding, or weak and expansive soils. Evaluation and mitigation of seismic hazards, including ground shaking, liquefaction, and seismically-induced landslides, shall comply with guidelines set forth in the most recent version of the California Division of Mines and Geology (CDMG) Special Publication 117.	Consistent: A geotechnical investigation was prepared for the site by Reese and Associates Consulting Geotechnical Engineers. This investigation evaluated the potential risk from landslides, liquefaction, and weak or expansive soils. Refer to Section 3.5, Geology and Soils, for more discussion.
	Policy NS-C-3	Restrict development from areas where people might be adversely affected by known natural or manmade geologic hazards. Hazards might include unstable slopes, liquefiable soils, expansive	Consistent: The project would not be located in an area where people might be adversely affected by natural or manmade geologic hazards. Further discussion is

Element	Goal/Objective/Policy		Consistency Determination
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		soils or weak poorly engineered fills, as determined by a California registered geologist or engineer.	available in Section 3.5, Geology and Soils.
	Policy NS-C-8	Adopt mandatory, minimum erosion control measures for current properties and those under construction that exhibit high erosion potential, are in areas of steep slopes, or have experienced past erosion problems. Control measures shall reduce soil erosion from primary erosional agents, including wind, construction operations, and storm water runoff.	Consistent: The project would implement BMPs to mitigate and reduce the potential for soil erosion during construction. In addition, steep slopes on the north side of the project site would be re-graded to reduce erosion potential. Further discussion is available in Section 3.5, Geology and Soils.
	Goal NS-D	Minimize hazards associated with storm flooding.	Consistent: The project would include stormwater systems that adhere to all applicable requirements and standards, such as bioretention areas and permeable gutters in order to reduce stormwater flooding. Refer to Section 3.8, Hydrology and Water Quality, of this Draft EIR.
	Policy NS-D-1	Ensure flood plain protection by retaining existing open areas and creating new open areas needed to retain stormwater, recharge aquifers, and prevent flooding.	Consistent: The project would preserve all creek and riparian areas to retain stormwater, recharge aquifers, and prevent flooding. In addition, the project would retain approximately 24 percent of the site as natural open space and approximately 34 percent as landscaped area. With approximately 58 percent of the site as open/natural or landscaped area the project would allow the site to retain stormwater recharge and prevent high runoff flows.
	Policy NS-D-3	Require that new development and redevelopment projects meet the requirements of the LID Manual to reduce impermeable surface area, increase surface water infiltration, and minimize surface water runoff during storm events.	Consistent: The project would comply with applicable requirements of the LID Manual. The project would implement stormwater retention areas and planters, and permeable gutters; and it would retain approximately 58 percent of the site as natural/open and landscaped area. These design measures would reduce peak surface water runoff

Element	Goal/Objective/Policy		Consistency Determination
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			and improve surface water infiltration when compared to nearby development. Refer to Section 3.8, Hydrology and Water Quality, for more discussion.
	Policy NS-D-4	Incorporate features and appropriate standards that reduce flooding hazards.	Consistent: The project would reduce flooding hazards through preserving the creek areas, implementing bioretention areas, and retaining approximately 58 percent of the site as natural/open and landscaped area. These features would limit peak runoff volume and allow for stormwater recharge in accordance with all applicable requirements and standards. Refer to Section 3.8, Hydrology and Water Quality.
	Policy NS-D-5	Apply design standards and guidelines to new development that help reduce project runoff into local creeks, tributaries, and drainage ways.	Consistent: The project would apply applicable requirements of LID standards to reduce peak runoff flow speed and retain creek areas as natural drainage. In addition, the project proposes to implement bioretention areas, permeable gutters, and stormwater retention planters throughout the site. These measures would help reduce project runoff into local creeks, tributaries, and drainage ways.
	Policy NS-D-6	Evaluate flood hazards prior to approval of development projects within a Federal Emergency Management Agency (FEMA) designated flood zone. Ensure that new development within flood zones is designed to be protected from flooding without negatively affecting adjacent areas.	Consistent: No development is proposed in a 100-year flood zone as designated in the FEMA-designated flood zone.
	Goal NS-E	Provide protection of public and private properties from hazards associated with dam inundation.	Consistent: The project is not located in a dam inundation hazard zone.
	Goal NS-F	Minimize dangers from hazardous materials.	Consistent: The Draft EIR evaluates potential impacts from hazardous materials, requiring mitigation as necessary to minimize danger. A Phase I ESA was prepared, which

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			describes in further detail an investigation of hazards and hazardous materials on the site. The project would not result in the generation or transport of significant amounts of hazardous materials. Refer to Section 3.7, Hazards and Hazardous Materials, and Appendix G for more discussion.
	Goal NS-G	Minimize the potential for wildland fires.	Consistent: The site is located in the Wildland Urban Interface Fire Area as delineated by the City and high fire severity risk zone designated by California Department of Forestry and Fire Protection (CAL FIRE). Accordingly, the City would require the project to comply with applicable development and building standards. The project would also be required to maintain defensible spaces, thereby reducing the risk of damage from fire to the maximum extent possible. Refer to Section 3.12, Public Services, regarding fire protection and Section 3.7, Hazards and Hazardous Materials, and Section 3.16, Wildfire, regarding Wildfire for more discussion.
	Policy NS-G-1	Require proposed developments in the Wildland Urban Interface zone, including the Very High Fire Hazard Severity zone, to investigate a site's vulnerability to fire and to minimize risk accordingly.	Consistent: The site is located in the Wildland Urban Interface Fire Area as delineated by the City and high fire severity risk zone designed by CAL FIRE. Accordingly, the City would require the project to comply with applicable development and building standards. The project would also be required to maintain defensible spaces, thereby reducing the risk of damage from fire to the maximum extent possible. Refer to Section 3.12, Public Services, for fire protection and Section 3.7, Hazards and Hazardous Materials, and Section 3.16, Wildfire, for more discussion.
	Policy NS-G-1	Require proposed developments in the Wildland Urban Interface zone, including the Very High Fire Hazard	Consistent: The site is located in the Wildland Urban Interface Fire Area as delineated by the City and high

Element	Goal/Objective/Policy		Consistency Determination
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		Severity zone, to investigate a site's vulnerability to fire and to minimize risk accordingly.	fire severity risk zone designed by CAL FIRE. Accordingly, the City would require the project to comply with applicable development and building standards. The project would also be required to maintain defensible spaces, thereby reducing the risk of damage from fire to the maximum extent practicable. Refer to Section 3.12, Public Services, for fire protection and Section 3.7, Hazards and Hazardous Materials, and Section 3.16, Wildfire, for more discussion.

Zoning Code Consistency

The Santa Rosa Zoning Code establishes development standards, allowable uses, and required entitlements for developments. The project includes a revised Policy Statement that outlines development standards and allowable uses. As stated in the Policy Statement, where the Policy Statement is silent, future development would be required to be done in compliance with current zoning regulations on-site.

Planned Development Zoning District No. 93-002 Revisions

The existing Policy Statement and related development plan has been modified to provide development standards and allowable uses for the Elnoka CCRC project. **Error! Reference source not found.** illustrates the Policy Statement's updated Development Plan. The Policy Statement's Development Plan identifies on-site land uses where specific development types are allowed (Single-family housing, Commercial and multi-family housing, and Open space). As discussed below, impacts related to planned Development consistency would be less than significant on-site.

As defined by the updated Policy Statement, the purpose of each land use category within Elnoka CCRC is as follows:

SINGLE-FAMILY HOUSING (SFH) - Provide areas for units which are part of the Elnoka CCRC, but function as detached single-family residential homes; provided, however, that multi-family residential units may also be developed within the SFH category subject to any applicable Design Review and Hillside Development Permit requirements under the City of Santa Rosa's Zoning Code.

COMMERCIAL AND MULTI-FAMILY HOUSING (CMH) - These areas are designated for multi-family residential units, care facility units, and support services; provided, however, that

single-family residential units are also permitted within the CMH category. The intent is to provide areas for the combination of residential, care, office and community support service uses to serve the Elnoka CCRC community, including residents, guests and employees.

OPEN SPACE (OS) - This category is intended to protect natural features such as creeks or hillsides, or areas that contain natural resources or hazards, and therefore development within these areas shall be limited as set forth in the Land Use Table. Outdoor recreational activities are permitted uses within Open Space (OS) areas that have no crosshatching overlay shown on the Development Plan. Open Space (OS) areas with the crosshatching overlay shown on the Development Plan shall retain the natural, unaltered landscape, except that outdoor recreational activities may be developed within these crosshatched areas with approval of a Minor Conditional Use Permit.

The modified Policy Statement's development standards include the following requirements:

- All new structures, except single-family residential units, shall be subject to Design Review.
- All development proposed on slopes greater than ten percent shall be subject to Zoning Code Chapter 20-32, Hillside Development.
- All signage visible from the public right-of-way shall require a sign permit in compliance with Zoning Code Chapter 20-38, Signs.
- All new landscaping shall be done in accordance with the applicable provisions of the City's Water Efficient Landscape Ordinance.
- Open Space (OS) areas with the crosshatching overlay shown on the Development Plan shall retain the natural, unaltered landscape, with the exception of outdoor recreational activities within these crosshatched areas that are permitted with approval of a Minor Conditional Use Permit. Any development occurring within the OS areas shall be consistent with the project's conditions of approval and the related Mitigation Monitoring and Reporting Program.
- Pedestrian linkages and trails will be provided within and amongst all land use category areas as generally shown on the Development Plan.
- Post construction tree removal shall be done in compliance with applicable provisions of the City of Santa Rosa Tree Ordinance, City Code Chapter 17-24.

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Table 3.9-2 through Table 3.9-4 summarizes development standards, allowable land uses, and parking requirements as outlined in the modified Policy Statement.

Table 3.9-2: Modified PD 93-002 Development Standards

Development Feature	SFH	CMH	OS
Height	25 feet	55 feet	16 feet
Setback (from all perimeter property lines except Sonoma Highway frontage)	70 feet	70 feet	70 feet
Setback from Sonoma Highway frontage	50 feet for single-story structures; 100 feet for taller structures	50 feet for single-story structures; 100 feet for taller structures	50 feet for single-story structures; 100 feet for taller structures
Setback from interior property lines	5 feet unless otherwise determined through Minor Conditional Use Permit	15 feet unless otherwise determined through Minor Conditional Use Permit	Determined through Design Review
Setback (from all waterways)	50 feet	50 feet	50 feet
Notes: SFH = Single-family Housing CMH = Commercial and Multi-family Housing OS = Open Space			

Table 3.9-3: Modified PD 93-002 Allowable Uses and Permit Requirements

Land Use	SFH	CMH	OS
Accessory/Storage Structures	ZR	ZR	ZR
Care Center Units	P	P	—
Dining Facility (including Lounge uses)	P	P	—
Guest Quarters	P	P	—
Home Occupations	ZR	ZR	—
Learning Center	MUP	P	MUP
Meeting Facility	MUP	P	—
Multi-family Residential Unit	P	P	—
Office	—	P	—
Recreational Activity Areas (indoor)	P	P	—
Recreational Activity Areas (outdoor)	P	P	P*
Retail	—	P	—
Single-family Residential Unit	P	P	—
Storage	P	P	—

Land Use	SFH	CMH	OS
<p>Notes:</p> <p>SFH = Single-family Housing</p> <p>CMH = Commercial and Multi-family Housing</p> <p>OS = Open Space</p> <p>P = Permitted</p> <p>MUP = Minor Use Permit</p> <p>CUP = Conditional Use Permit</p> <p>ZR = Pursuant to the current Zoning Code for the most likely implementing zoning district</p> <p>– = Not Allowed</p> <p>* Outdoor recreational activities within the Open Space (OS) areas with crosshatching overlay shown on the Development Plan require approval of a Minor Conditional Use Permit.</p> <p>Source: City of Santa Rosa, Elnoka Continuing Care Retirement Community (Elnoka CCRC) - Policy Statement.</p>			

Table 3.9-4: Modified PD 93-002 Parking Requirements

Land Use	Parking Requirements
Accessory/Storage Structures	–
Care Center Units	One space per each three beds
Dining Facility	One space for each 100 square feet
Home Occupations	As designated by unit type or, if an MUP is required, then as permitted per the MUP
Guest Quarters	As designated for unit type (e.g., Single-family Residential requires two spaces for each single-family dwelling)
Learning Center	One space for each 250 square feet
Meeting Facility	One space for each 4 fixed seats or one space for every 50 square feet of assembly area or meeting rooms, whichever is greater.
Multi-family Residential Unit	One covered space per unit, plus one guest parking space for each 10 units.
Office	One space for each 250 square feet
Recreational Activity Areas (indoor)	One space for each 250 square feet, not including that area devoted to athletic courts located within the building, plus two spaces per athletic court
Recreational Activity Areas (outdoor)	If an MUP is required, then as required under the MUP
Retail	One space for each 250 square feet
Single-family Residential Unit	Two spaces for each single-family dwelling
Storage	One space for each 1,000 square feet
<p>Notes:</p> <p>MUP = Minor Use Permit</p>	

Senior Housing (-SH) Combining District

The project requests a zoning map amendment to include a Senior Housing (-SH) Combining District Zone. Section 20-28.080 of the Zoning Code outlines the requirements for development within the Senior Housing Combining District, which include occupancy requirements, senior housing status notification, and Housing Authority compliance. Subject to review and administrative code enforcement provisions, the project would submit verification of occupancy biennially to confirm its status as senior housing. As such, the project would be consistent with the Senior Housing Overlay District requirements and impacts would be less than significant.

Scenic Road Combining District

Two on-site parcels located adjacent to Sonoma Highway (APNs 031-050-062 and 031-050-061) are included in the -SR combining district included under Zoning Code 20-28.050. Consistent with the -SR combining district's regulations related to Sonoma Highway, the proposed 12 residential units located on APN 031-050-52 in two, two-story buildings are located 112 and 111 feet from Sonoma Highway⁵. The adjacent one-story Maintenance Building is also located approximately 100 feet from Sonoma Highway. All other project components would comply with setbacks of the PD as required by the -SR district. As shown in Exhibit 3.2-5 and 3.2-6, the project would use existing and proposed landscaping to partially, but not fully, screen views of the project site from Sonoma Highway. Finally, as discussed below under Tree Removal Consistency and in Section 3.3, Biological Resources, tree removal would be required to obtain Tree Removal Permits, consistent with the Santa Rosa City Code Chapter 17-24 and additional applicable regulations contained in the -SR combining district zoning code. Therefore, the project would be consistent with the -SR combining district and impacts would be less than significant in this regard.

Resilient City

No on-site structures were damaged as part of the Tubbs or Nuns fires. However, all the structures were destroyed in the Glass Fire in 2020. Therefore, regulations regarding the Resilient City may apply if the boundaries of the overlay are changed.

Creekside Development

Section 20-30.040 of the Santa Rosa City Code details that proposed structures as part of a project must be set back a minimum of 50 feet from the top of the highest bank from all on-site waterways. This project contains four on-site creeks and would be required to comply with these setback minimums. The project would not propose structures or construction within these 50-foot setbacks and would preserve all riparian areas around these setbacks to retain natural/open space. Therefore, the project would be consistent with these requirements and impacts would be less than significant.

Zoning Code Consistency

Hillside Development

Per Chapter 20-32 of the Santa Rosa City Code, the project would be required to obtain a Hillside Development Permit from the City. This permit would ensure the project's development fits in with the surrounding development, respects natural and visual features, and complies with the City's Design

⁵ As indicated by the Elnoka CCRC Site Plan North prepared by Brelji & Race, dated 5-17-17

Guidelines. Compliance with the requirements of the Hillside Development Permit would ensure that impacts are less than significant.

Tree Removal

Santa Rosa City Code Chapter 17-24, Trees, regulates tree removal. The project contains approximately 1,663 trees as surveyed and approximately 409 of those trees are considered protected by the City's Tree Protection Ordinance.⁶ As a result, the applicant would be required to obtain a Tree Removal Permit and replace removed trees at a 2:1 ratio according to the tree alteration, removal, and relocation requirements in the City Code. The project proposes to retain approximately 75 percent of on-site trees. With implementation of the compulsory Tree Removal Permit, the project would be consistent with the City's tree removal regulations and impacts would be less than significant. Refer to Section 3.3, Biological Resources, for further discussion on this matter.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.9.5 - Cumulative Impacts

The geographic scope of the cumulative land use analysis is the project vicinity within the City of Santa Rosa and its Sphere of Influence. Land use decisions for both the project and for some of the other cumulative projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, as well as other relevant cumulative projects as required by CEQA, are made at the City level, while land use decisions for projects in Sonoma County are made by the County. Development within Santa Rosa is governed by Santa Rosa General Plan 2035 and the Santa Rosa City Code, which ensure logical and orderly development and require discretionary review to ensure that projects do not result in land use impacts due to inconsistency with the General Plan 2035 and other regulations.

Other cumulative development projects in the City of Santa Rosa would be required to demonstrate consistency with applicable provisions of the General Plan 2035 and applicable codes, ordinances, and policies. Development projects in Sonoma County would be required to demonstrate consistency with the County General Plan and applicable codes and ordinances, including, among other things, the City's adopted UGB. This would ensure that these projects comply with applicable planning policies and regulations. The project has been determined to be consistent with the City's policy to allow CCRCs to be developed per intensity of use rather than General Plan land use

⁶ Many trees were destroyed as a result of the Glass Fire. The full effect of the fire as it relates to trees has yet to be determined; some trees may regenerate after appearing to sustain extensive damage.

designations and would otherwise implement the land use vision for the area and facilitate achievement of numerous General Plan goals and policies. It also has been determined that the project would not divide an established community. Given the above information, the project, in conjunction with other existing, planned, and probable future projects, would result in a less than significant cumulative impact related to land use and planning.

Level of Cumulative Significance Before Mitigation

Less than significant impact.

Cumulative Mitigation Measures

No mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant impact.

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3.10 - Noise

3.10.1 - Introduction

This section describes existing conditions related to noise and vibration in the project site and vicinity as well as the regulatory framework. This section also evaluates the potential impacts related to noise and vibration that could result from implementation of the project. Information included in this section is based, in part, on the Santa Rosa General Plan 2035, Elnoka Traffic Impact Study (included in Appendix I), and project-specific noise modeling results (complete modeling output is provided in Appendix H). The following comments were received during the Environmental Impact Report (EIR) scoping period related to noise.

- Cumulative impacts of nearby care facilities on noise
- Noise impacts from heating, ventilation, and air conditioning (HVAC) systems

3.10.2 - Environmental Setting

Characteristics of Noise

Noise is generally defined as unwanted or objectionable sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in the extreme, hearing impairment. Noise effects can be caused by pitch or loudness. *Pitch* is the number of complete vibrations or cycles per second of a wave that result in the range of tone from high to low; higher-pitched sounds are louder to humans than lower-pitched sounds. *Loudness* is the intensity or amplitude of sound.

Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit, which expresses the ratio of the sound pressure level being measured to a standard reference level. 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. Only audible changes in existing ambient or background noise levels are considered potentially significant.

The human ear is not equally sensitive to all frequencies within the audible sound spectrum, so sound pressure level measurements can be weighted to better represent frequency-based sensitivity of average healthy human hearing. One such specific “filtering” of sound is called “A-weighting.” A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies that are audible to the human ear. Because decibels are logarithmic units, they cannot be added or subtracted by ordinary arithmetic means. For example, if one noise source produces a noise level of 70 dB, the addition of another noise source with the same noise level would not produce 140 dB; rather, they would combine to produce a noise level of 73 dB.

Noise Descriptors

There are many ways to rate noise for various intervals of time, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and Community Noise Equivalent Level (CNEL) or the day-night average level (L_{dn}) based on dBA. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within one dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Noise Propagation

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source, as well as ground absorption, atmospheric conditions (wind, temperature gradients, and humidity) and refraction, and shielding by natural and manmade features. Sound from point sources, such as an air conditioning condenser, a piece of construction equipment, or an idling truck, radiates uniformly outward as it travels away from the source in a spherical pattern.

The attenuation or sound drop-off rate is dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in noise models: soft-site and hard-site conditions. Soft-site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. For point sources, a drop-off rate of 7.5 dBA per each doubling of the distance (dBA/DD) is typically observed over soft ground with landscaping, as compared with a 6 dBA/DD drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. For line sources, such as traffic noise on a roadway, a 4.5 dBA/DD is typically observed for soft-site conditions compared to the 3 dBA/DD drop-off rate for hard-site conditions. Table 3.10-1 briefly defines these measurement descriptors and other sound terminology used in this section.

Table 3.10-1: Sound Terminology

Term	Definition
Sound	A vibratory disturbance created by a vibrating object which, when transmitted by pressure waves through a medium such as air, can be detected by a receiving mechanism such as the human ear or a microphone.
Noise	Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
Ambient Noise	The composite of noise from all sources near and far in a given environment.
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which represents the squared ratio of sound-pressure amplitude to a reference sound pressure. The reference pressure is 20 micropascals, representing the threshold of human hearing (0 dB).
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level that approximates the frequency response of the human ear.
Equivalent Noise Level (L_{eq})	The average sound energy occurring over a specified time period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period.
Maximum and Minimum Noise Levels (L_{max} and L_{min})	The maximum or minimum instantaneous sound level measured during a measurement period.
Day-Night Level (DNL or L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m. (nighttime).
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring between 7:00 p.m. and 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m.
Source: Data compiled by FCS 2018.	

Traffic Noise

The level of traffic noise depends on the three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater number of trucks. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. Because of the logarithmic nature of noise levels, a doubling of the traffic volume (assuming that the speed and truck mix do not change) results in a noise level increase of 3 dBA. Based on the Federal Highway

Administration (FHWA) community noise assessment criteria, this change is “barely perceptible”; for reference, a doubling of perceived noise levels would require an increase of approximately 10 dBA. The truck mix on a given roadway also has an effect on community noise levels. As the number of heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise levels increase.

Stationary Noise

A stationary noise producer is any entity in a fixed location that emits noise. Examples of stationary noise sources include machinery, engines, energy production, and other mechanical or powered equipment and activities such as loading and unloading or public assembly that may occur at commercial, industrial, manufacturing, or institutional facilities. Furthermore, while noise generated by the use of motor vehicles over public roads is preempted from local regulation for purposes of regulating stationary sources, although the use of these vehicles is considered a stationary noise source when operated on private property such as at a construction site, a truck terminal, or warehousing facility. The emitted noise from the producer can be mitigated to acceptable levels either at the source or on the adjacent property through the use of proper planning, setbacks, block walls, acoustic-rated windows, dense landscaping, or by changing the location of the noise producer.

The effects of stationary noise depend on factors such as characteristics of the equipment and operations, distance and pathway between the generator and receptor, and weather. Stationary noise sources may be regulated at the point of manufacture (e.g., equipment or engines), with limitations on the hours of operation, or with provision of intervening structures, barriers or topography.

Construction activities are a common source of stationary noise. 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 3.10-2 shows typical noise levels of construction equipment as measured at a distance of 50 feet from the operating equipment.

Table 3.10-2: 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

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Portable Generators	No	82
Rollers	No	85
Bulldozers	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
Notes: dBA = A-weighted decibel Source: FHWA 2006. Highway Construction Noise Handbook, August.		

Noise from Multiple Sources

Because sound pressure levels in decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. Therefore, sound pressure levels in decibels are logarithmically added on an energy summation basis. In other words, adding a new noise source to an existing noise source, both producing noise at the same level, will not double the noise level. Instead, if the difference between two noise sources is 10 dBA or more, the louder noise source will dominate and the resultant noise level will be equal to the noise level of the louder source. In general, if the difference between two noise sources is 0–1 dBA, the resultant noise level will be 3 dBA higher than the louder noise source, or both sources if they are equal. If the difference between two noise sources is 2–3 dBA, the resultant noise level will be 2 dBA above the louder noise source. If the difference between two noise sources is 4–10 dBA, the resultant noise level will be 1 dBA higher than the louder noise source.

Health Effects of Environmental Noise

The United States Environmental Protection Agency (EPA) all but eliminated its noise investigation and control program in the 1970s, but European nations have continued to study noise and its health effects; therefore, the World Health Organization (WHO) is perhaps one of the best sources of current knowledge regarding health impacts of noise. According to the WHO, sleep disturbance can

occur when continuous indoor noise levels exceed 30 dBA L_{eq} , or when intermittent interior noise levels reach 45 dBA L_{max} , particularly if background noise is low.¹

The WHO criteria suggest that when a bedroom window is slightly open (a 15-dB reduction from outside to inside noise levels), exterior continuous (ambient) nighttime noise levels in residential areas should be 45 dBA L_{eq} or below, particularly in areas with older housing stock, and that short-term events should not generate noise exceeding 60 dBA.^{2,3,4} An acoustically well-insulated building with windows and doors closed can provide 30–35 dB of noise attenuation. More conventional residential construction provides 20–25 dB of noise reduction with windows closed and only about 15 dB of noise reduction when windows are open.

Other potential health effects of noise identified by the WHO include decreased performance on complex cognitive tasks, such as reading, attention, problem solving, and memorization; physiological effects such as hypertension and heart disease (after many years of constant exposure, often by workers, to high noise levels); and hearing impairment (again, generally after long-term occupational exposure, although shorter-term exposure to very high noise levels, such as concert noise at 100 dBA several times a year, can also cause hearing impairment).

Noise can also disrupt speech intelligibility at relatively low levels. For example, in a classroom setting, a noise level as low as 35 dBA can disrupt clear understanding. Finally, noise can cause annoyance and can trigger emotional reactions like anger, depression, and anxiety. The WHO reports that during daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA, or moderately annoyed by noise levels below 50 dBA.⁵

Characteristics of Vibration

Groundborne vibration consists of rapidly fluctuating motion through a solid medium, specifically the ground, that has an average motion of zero and in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The effects of groundborne vibration typically only causes a nuisance to people, but in extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Groundborne noise is an effect of groundborne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room, and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude such as the maximum instantaneous peak in the vibrations velocity, which is known as the peak particle velocity (PPV) or

¹ World Health Organization (WHO). 1999. Guidelines for Community Noise. Geneva, Switzerland. Website: <http://www.who.int/docstore/peh/noise/guidelines2.html>.

² Harris, D. A. 1997. Noise Control Manual for Residential Buildings. New York: McGraw Hill Professional.

³ Wyle Laboratories. 1994 (September 30). Durham International Airport New Construction Acoustical Design Guide. Wyle Research Report WR 94-23. Arlington, VA. Prepared for Raleigh-Durham Airport Authority, RDU Airport, NC.

⁴ California Governor's Office of Planning and Research (OPR). 2003. State of California General Plan Guidelines. 2003 edition. Sacramento, CA.

⁵ World Health Organization (WHO). 1999. Guidelines for Community Noise. Geneva, Switzerland. Website: <http://www.who.int/docstore/peh/noise/guidelines2.html>.

the root mean square (rms) amplitude of the vibration velocity. Because of the typically small amplitudes of vibrations, vibration velocity is often expressed in decibels—denoted as LV—and is based on the reference quantity of 1 micro inch per second. To distinguish vibration levels from noise levels, the unit is written as “VdB.”

Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. When assessing annoyance from groundborne vibration, vibration is typically expressed as root mean square (rms) velocity in units of decibels of 1 micro-inch per second, with the unit written in VdB. Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. Human perception to vibration starts at levels as low as 67 VdB. Annoyance due to vibration in residential settings starts at approximately 70 VdB.

Off-site sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible groundborne noise or vibration. Construction activities, such as blasting, pile driving and operating heavy earthmoving equipment, are common sources of groundborne vibration. Construction vibration impacts on building structures are generally assessed in terms of PPV. Typical vibration source levels from construction equipment are shown in Table 3.10-3.⁶

Table 3.10-3: 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

⁶ Federal Highway Administration (FHWA). 2006. Highway Construction Noise Handbook. August.

Construction Equipment	PPV at 25 Feet (inches/second)	rms Velocity in Decibels (VdB) at 25 Feet
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
Notes: PPV = peak particle velocity Rms = root mean square Source: Compilation of scientific and academic literature, generated by Federal Transit Administration (FTA) and FHWA.		

The propagation of groundborne vibration is not as simple to model as airborne noise. This is because noise in the air travels through a relatively uniform medium, while groundborne vibrations travel through the earth, which may contain significant geological differences. Factors that influence groundborne vibration include:

- **Vibration source:** Type of activity or equipment, such as impact or mobile, and depth of vibration source;
- **Vibration path:** Soil type, rock layers, soil layering, depth to water table, and frost depth; and
- **Vibration receiver:** Foundation type, building construction, and acoustical absorption.

Among these factors that influence groundborne vibration, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and shallow rock seems to concentrate the vibration energy close to the surface, and can result in groundborne vibration problems at large distance from the source. Factors such as layering of the soil and depth to the water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a “push-pull” fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also

body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil type, but it has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests. The vibration level calculated in terms of PPV at a distance from a point source can generally be calculated using the vibration reference equation:

$$PPV = PPV_{ref} * (25/D)^n \text{ (in/sec)}$$

Where:

PPV_{ref} = reference measurement at 25 feet from vibration source

D = distance from equipment to the receptor

n = vibration attenuation rate through ground

According to Chapter 12 of the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment manual, an “n” value of 1.5 is recommended to calculate vibration propagation through typical soil conditions.⁷

Existing Noise Levels

Ambient Noise

To understand the current ambient noise environment in the vicinity of the project site, three noise measurements were taken on the project site. The existing noise measurement locations were taken in compliance with the methodology and site selection acoustical equivalence guidance of the Caltrans Technical Noise Supplement.⁸ These measurements provide a baseline of existing noise conditions. Two short-term and one long-term existing noise measurements were taken. The results of these measurements are described below.

Short-Term Noise Measurements

Short-term noise monitoring was conducted on July 12, 2017 between 2:30 p.m. and 4:10 p.m. Because the on-site and surrounding land uses have not changed since the time of these measurements, these ambient noise measurements are still considered to be adequately representative of the existing ambient noise environment. The noise measurements were taken during the midday hours, as the midday hours typically have the highest daytime noise levels in urban environments. It should be noted that peak noise hours often vary slightly from peak traffic hours, as peak noise hours more closely align with high volume traffic that is still free flowing; while peak traffic hours often result in slower vehicle speeds due to the volume of traffic on the roadway. At the start of the noise monitoring, the sky was clear with consistent wind conditions ranging between 10 and 12 miles per hour (mph). The field survey noted that noise within the project site is generally characterized by highway traffic, local roadway traffic, and birds. The short-term existing

⁷ Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment. May.

⁸ California Department of Transportation (Caltrans). 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September.

noise measurement results are summarized in Table 3.10-4. The existing ambient noise measurement locations are shown on Exhibit 3.10-1.

Table 3.10-4: Existing Ambient Noise Levels on the Project Site

Site ID #	Description	L _{eq}	L _{min}	L _{max}
ST-1	On the project site, approximately 350 feet northeast of the project site's southern boundary	39.9	33.6	52.2
ST-2	On the project site's northern boundary, immediately south of Susan Drive.	43.3	38.3	59.0
Notes: L _{eq} = equivalent sound level L _{min} = minimum noise/sound level L _{max} = maximum noise level The Site ID corresponds to locations shown in Exhibit 3.10-1. Source: FirstCarbon Solutions (FCS) 2017.				

Long-Term Noise Measurement

A long-term ambient noise measurement was conducted from 4:10 p.m. on Wednesday, July 21, 2017, to 2:30 p.m. on Thursday, July 22, 2017. The long-term measurement was taken on the project site, approximately 20 feet from the center of Susan Road. The long-term noise measurement location is shown in Exhibit 3.10-1, and the long-term noise measurement data results are provided in Appendix H. The results show that weekday 24-hour average day/night noise levels at this location ranged up to 53.6 dBA L_{dn}. The documented daytime hourly average noise levels were 47.1 L_{eq} with nighttime hourly average noise levels of 47.2 L_{eq}. When the long-term noise measurement was started, the sky was clear, and the temperature was 84° (degrees Fahrenheit), with average wind speeds of 9 mph.

Traffic Noise

In addition to the ambient noise measurements, existing traffic noise on local roadways in the areas surrounding the project site was calculated to quantify existing traffic noise levels, based on the 2017 traffic volumes included in Appendix I. Existing traffic noise levels along selected roadway segments in the vicinity of the project site were modeled using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108). Site-specific information is entered, such as roadway traffic volumes, roadway active width, source-to-receiver distances, travel speed, noise source and receiver heights, and the percentages of automobiles, medium trucks, and heavy trucks that the traffic is made up of throughout the day, amongst other variables. The modeled Average Daily Traffic (ADT) volumes were obtained from the traffic study prepared for the project.⁹ The existing noise model inputs and outputs, including the 60 dBA, 65 dBA, and 70 dBA L_{dn} traffic noise contour distances, are provided in Appendix H. A summary of the modeling results is shown in Table 3.10-5.

⁹ W-Trans, 2019. Traffic Impact Study for the Elnoka CCRC Project. December 2019.

Table 3.10-5: Existing Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 L _{dn} (feet)	Centerline to 65 L _{dn} (feet)	Centerline to 60 L _{dn} (feet)	L _{dn} (dBA) 50 feet from Centerline of Outermost Lane
Sonoma Highway—Melita Road to Mountain Hawk Drive	22,900	81	169	362	70.7
Sonoma Highway—Mountain Hawk Drive to Los Alamos Road	18,500	72	147	314	69.8
Sonoma Highway—Los Alamos Road to Melita Road	20,300	76	156	334	70.2
Sonoma Highway—Melita Road to Elnoka Lane (project access)	21,600	76	162	348	71.4
Sonoma Highway—east of Elnoka Lane (project access)	20,700	74	157	338	71.2
Los Alamos Road—Melita Road to Sonoma Highway	4,500	< 50	< 50	58	60.3
Melita Road—Los Alamos Road to Project Access	2,400	< 50	< 50	< 50	56.0
Melita Road—Project Access to Sonoma Highway	2,300	< 50	< 50	< 50	55.8
Notes: ADT = Average Daily Traffic dBA = A-weighted decibel L _{dn} = day/night average sound level Source: FCS 2017.					

The modeling results indicate that traffic noise levels range up to approximately 71 dBA L_{dn} at the northern boundary of the project site next to Sonoma Highway, and range up to approximately 56 dBA L_{dn} at the western boundary of the project site next to Melita Road.

Noise-Sensitive Land Uses

Noise-sensitive land uses generally consist of those uses where exposure to noise would result in adverse effects, as well as uses for which quiet is an essential element of their intended purpose. Residential dwellings are of primary concern, because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other noise-sensitive land uses include hospitals, convalescent facilities, hotels, churches, libraries, and other uses where low noise levels are essential.

Noise sensitive land uses in the project vicinity include large lot single-family residential uses located west/northwest of the project site on Melita Road. North of the project site are large lot single-family residential uses on Susan Road. North/northeast of Sonoma Highway are large lot single-family homes in unincorporated county land. Oakmont Village, a master planned retirement community in Santa Rosa, is located east/southeast of the project site. There are several large lot single-family homes along Channel Drive located south and southwest of the project site situated between the project site and Trione-Annadel State Park.

3.10.3 - Regulatory Framework

Federal

Noise Control Act

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Promulgating noise emission standards for interstate commerce
- Assisting state and local abatement efforts
- Promoting noise education and research

The Federal Office of Noise Abatement and Control (ONAC) was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and interagency committees.

Among the agencies now regulating noise are the Occupational Safety and Health Administration (OSHA), which limits noise exposure of workers to 90 dB L_{eq} or less for 8 continuous hours or 105 dB L_{eq} or less for 1 continuous hour; the United States Department of Transportation (USDOT), which assumed a significant role in noise control through its various operating agencies; and the Federal Aviation Administration (FAA), which regulates noise of aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the FTA. Transit noise is regulated by the federal Urban Mass Transit Administration, while freeways that are part of the interstate highway system are regulated by the FHWA. Finally, the federal government actively advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being sited adjacent to a highway, or alternatively, that developments are planned and constructed in such a manner that minimize potential noise impacts.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by transportation sources, local jurisdictions are limited to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

Federal Transit Administration Standards and Guidelines

The FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment document.¹⁰ The FTA Guidelines include thresholds for construction vibration impacts for various structural categories as shown in Table 3.10-6.

Table 3.10-6: 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

¹⁰ Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment. May.

Building Category	PPV (in/sec)	Approximate VdB
III. Non- Engineered Timber and Masonry Buildings	0.2	94
IV. Buildings Extremely Susceptible to Vibration Damage	0.12	90
Notes: PPV = peak particle velocity VdB = vibration in decibels Source: FTA 2006. Transit Noise and Vibration Impact Assessment.		

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Source: ESRI Imagery

FIRSTCARBON
SOLUTIONS™



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Feet

Exhibit 3.10-1 Noise Monitoring Locations Map

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State

California General Plan Guidelines

Established in 1973, the California Department of Health Services Office of Noise Control was instrumental in developing regulatory tools to control and abate noise for use by local agencies. One significant model is the “Land Use Compatibility for Community Noise Environments Matrix,” which allows the local jurisdiction to delineate compatibility of sensitive uses with various incremental levels of noise.¹¹ These land use compatibility standards are designed to help guide local planning of new land use development to be compatible with the ambient noise environment.

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/land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. The project is also subject to review under the State of California Environmental Quality Act (CEQA). Appendix G of the CEQA Guidelines provides impact thresholds for potential noise and vibration impacts.

California Building Standards Code

The State of California has established noise insulation standards for new hotels, motels, apartment houses, and dwellings (other than single-family detached housing). These requirements are provided in the California Building Standards Code (CBC).¹² As provided in the CBC, the noise insulation standards set forth an interior standard of 45 dBA CNEL as measured from within the structure’s interior. When such structures are located within a 65-dBA CNEL (or greater) exterior noise contour associated with a traffic noise along a roadway, an acoustical analysis is required to ensure that interior levels do not exceed the 45-dBA CNEL threshold. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

Local

Santa Rosa General Plan Noise and Safety Element

The City of Santa Rosa has established noise compatibility standards for residential and non-residential land uses in the Noise and Safety Element of the Santa Rosa General Plan 2035.¹³ These community noise exposure standards are shown in Exhibit 3.10-2. The Santa Rosa General Plan 2035 contains goals, objectives, and policies that address noise. The following goals, objectives, and policies are established in the Santa Rosa General Plan 2035 and are relevant to this analysis:

- **NS-B:** Maintain an acceptable community noise level to protect the health and comfort of people living, working and/or visiting in Santa Rosa, while maintaining a visually appealing community.

¹¹ California Department of Health, Office of Noise Control, “Land Use Compatibility for Community Noise Environments Matrix,” 1976.

¹² California Building Standards Commission. 2017. California Building Standards Code (CCR Title 24), January 1.

¹³ City of Santa Rosa. 2009. Santa Rosa General Plan 2035. November 3.

- **NS-B-2:** Encourage residential developers to provide buffers other than sound walls, where practical. Allow sound walls only when projected noise levels at a site exceed land use compatibility standards in Exhibit 3.10-2.
- **NS-B-4:** Require new projects in the following categories to submit an acoustical study, prepared by a qualified acoustical consultant:
 - All new projects proposed for areas with existing noise above 60 dBA L_{dn} . Mitigation shall be sufficient to reduce noise levels below 45 dBA L_{dn} in habitable rooms and 60 dBA L_{dn} in private and shared recreational facilities. Additions to existing housing units are exempt.
 - All new projects that could generate noise whose impacts on other existing uses would be greater than those normally acceptable (as specified in the Land Use Compatibility Standards).
- **NS-B-5:** Pursue measures to reduce noise impacts primarily through site planning. Engineering solutions for noise mitigation, such as sound walls, are the least desirable alternative.
- **NS-B-6:** Do not permit existing uses to generate new noises exceeding normally acceptable levels unless:
 - Those noises are mitigated to acceptable levels; or
 - The activities are specifically exempted by the City Council on the basis of community health, safety, and welfare.
- **NS-B-8:** Adopt mitigations, including reduced speed limits, improved paving texture, and traffic controls, to reduce noise to normally acceptable levels in areas where noise standards may be exceeded (e.g., where homes front regional/Arterial streets and in areas of mixed use development.)
- **NS-B-9:** Encourage developers to incorporate acoustical site planning into their projects. Recommended measures include:
 - Incorporating buffers and/or landscaped earth berms;
 - Orienting windows and outdoor living areas away from unacceptable noise exposure;
 - Using reduced-noise pavement (rubberized-asphalt);
 - Incorporating traffic calming measures, alternative intersection designs, and lower speed limits; and
 - Incorporating state-of-the-art structural sound attenuation and setbacks.
- **NS-B-14:** Discourage new projects that have potential to create ambient noise levels more than 5 dBA L_{dn} above existing background, within 250 feet of sensitive receptors.

Santa Rosa City Code

The City of Santa Rosa outlines its standards for noise in the Noise chapter of its City Code.¹⁴ The Noise chapter establishes substantial permanent increase criteria for new and existing land use developments receiving noise. All applicable standards from the City's Noise chapter are summarized below:

¹⁴ City of Santa Rosa. 2017. Santa Rosa City Code. Website: <http://qcode.us/codes/santarosa/>

Santa Rosa City Code 17-16.120 states that “it is unlawful for any person to operate any machinery, equipment, pump, fan, air-conditioning apparatus or similar mechanical device in any manner so as to create any noise, which would cause the noise level at the property line of any property to exceed the ambient base noise level by more than five decibels (+5 dBA).” Applicable ambient base noise level criteria are shown in Table 3.10-7; these criteria can be used as a base (ambient noise level) from which noise levels can be compared.

Table 3.10-7: City of Santa Rosa City Code Ambient Base Noise Level Criteria

Land Use Zone	Daytime (7:00 a.m. to 7:00 p.m.) Level (dBA)	Evening (7:00 p.m. to 10:00 p.m.) Level (dBA)	Nighttime (10:00 p.m. to 7:00 a.m.) Level (dBA)
Residential	55	50	45
Residential (Multi-family)	55	55	50
Office and Commercial	60	60	55
Intensive Commercial	65	65	55
Industrial	70	70	70
Notes: dBA = A-weighted decibel Source: City of Santa Rosa City Code 17-16.030.			

The City has not established noise performance thresholds for construction activities. Standard City conditions of project approval limit the hours of construction to 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction is permitted on Sundays and holidays.

3.10.4 - Impacts and Mitigation Measures

Significance Criteria

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

It should be noted that the significance criteria question (a), below, is from the Land Use and Planning section of the CEQA Guidelines Appendix G checklist questions. However, this question addresses impacts related to conflicts with land use plans, which would include project-related conflicts to the noise land use compatibility standards of the Noise Element of the General Plan (see Exhibit 3.10-2). Therefore, these impacts are addressed here.

Would the project result in:

- A significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?
- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

- c) Generation of excessive groundborne vibration or groundborne noise levels? (This question is not discussed in this section; instead refer to Chapter 4, Effects Found not to be Significant, for the respective analysis).
- d) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (This question is discussed in Chapter 4, Effects Found not to be Significant).

Approach to Analysis

Noise Measurement Methodology

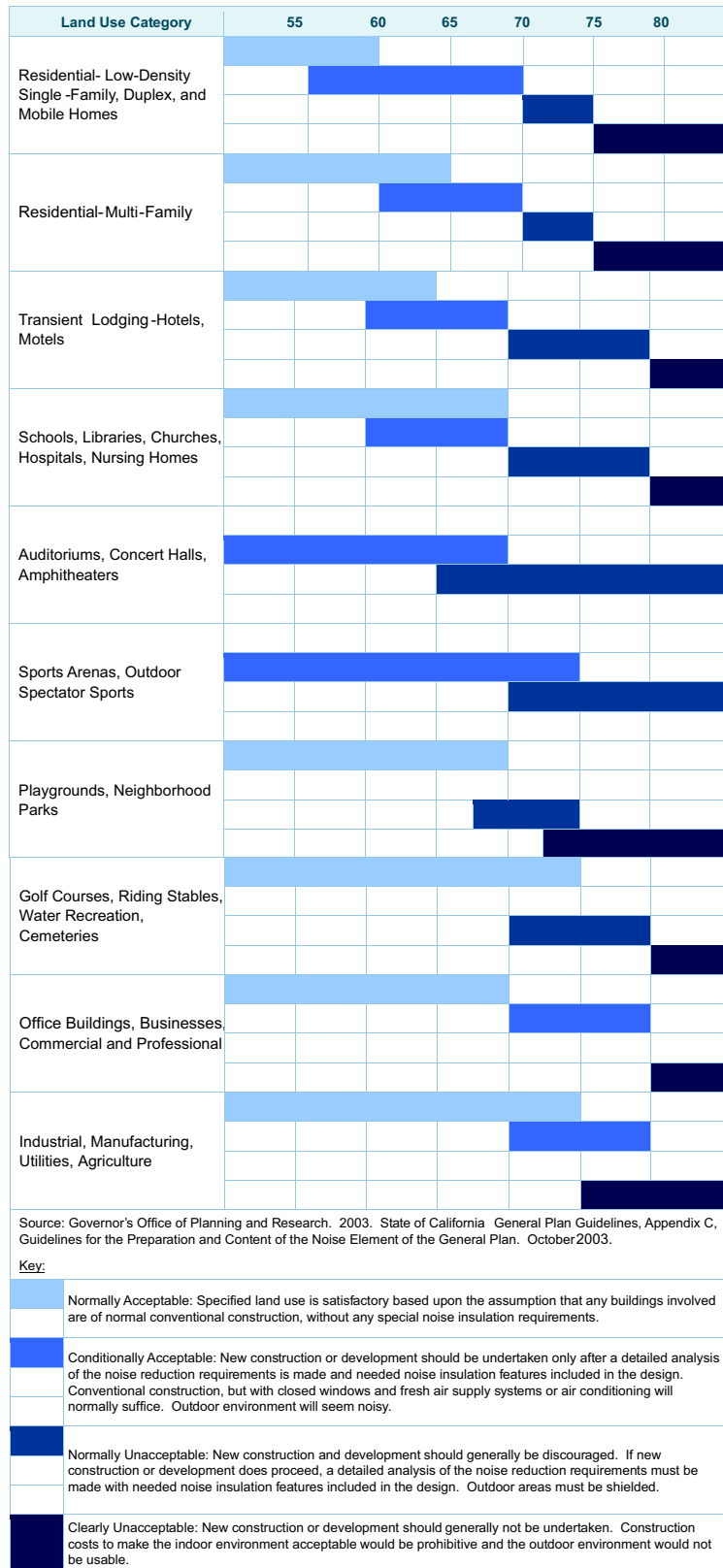
Noise measurements were taken using industry standard protocols and procedures. A Larson-Davis Model LxT Type 2 precision sound level meter programmed in “slow” mode was used to record noise levels in “A” weighted form. The sound level meter and microphone were held approximately 5 feet above the ground and were equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 150. The accuracy of the calibrator is maintained through a program established by the manufacturer and is traceable to the National Bureau of Standards. The unit meets the requirements of American National Standards Institute Standard S1.4-1984 and IEC Standard 942: 1988 for Class 2 equipment. All noise level measurement equipment meets American National Standards Institute specifications for sound level meters (S1.4 1983 identified in Chapter 19.68.020.AA).

The noise measurement locations were chosen to document existing ambient noise levels experienced at the project site to determine the compatibility of the existing noise environment for the proposed type of land use development to the City’s land use compatibility standards as well as other applicable standards described above. The noise measurement locations were also selected to try to capture any stationary noise sources in the project vicinity that may affect the project site that would not be accounted for in the traffic noise modeling performed for the project.

Traffic Noise Modeling Methodology

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. Traffic data used in the model was obtained from the traffic impact analysis prepared for this Draft EIR by W-Trans. The resultant noise levels were weighted and summed over a 24-hour period in order to determine the L_{dn} values. The FHWA-RD-77-108 Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level. Adjustments are then made to the reference energy mean emission level to account for the following: roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway); the total ADT; the percentage of ADT that flows during the day, evening, and night; the travel speed; the vehicle mix on the roadway; a percentage of the volume of automobiles, medium trucks, and heavy trucks; the roadway grade; the angle of view of the observer exposed to the roadway; and the site conditions (“hard” or “soft”) as they relate to the absorption of the ground, pavement, or landscaping.

Community Noise Exposure (dBA CNEL or L_{dn})



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The level of traffic noise depends on three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater number of trucks. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. Because of the logarithmic nature of traffic noise levels, a doubling of the traffic volume (assuming that the speed and truck mix do not change) results in a noise level increase of 3 dBA. As noted in the fundamentals of noise discussion, increases of 3 dBA is the minimum increase that is barely perceptible to the human ear in outdoor environments.

The model analyzed the noise impacts from the nearby roadways onto the project vicinity, which consists of the area that has the potential of being impacted from the on-site noise sources as well as the project-generated traffic on the nearby roadways. Analyses of the roadways were based on a single-lane-equivalent noise source combining both directions of travel. A single-lane-equivalent noise source is when the vehicular traffic from all lanes is combined into a theoretical single-lane that has a width equal to the distance between the two outside lanes of a roadway, which provides almost identical results to analyzing each lane separately where elevation changes are minimal. The modeling conservatively assumes a direct line of sight to the roadway and flat terrain conditions.

Impact Evaluation

Noise Levels That Would Conflict with Any Land Use Plan, Policy, or Regulation

Impact NOI-1:	The proposed project could result in a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.
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A significant impact would occur if the project would result in a conflict with the City's applicable land use compatibility standards adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, for purposes of this analysis, a significant impact would occur if project residents and employees would be exposed to transportation noise levels in excess of the City's "normally compatible" land use compatibility standard of 65 dBA L_{dn} for multi-family residential land uses or if project residents and employees were exposed to interior noise levels that would exceed the City's interior noise standard of 45 dBA L_{dn} .

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate existing, baseline and future project-related traffic noise conditions along modeled roadway segments in the vicinity of the project site. The projected future traffic noise levels on roadways adjacent to the site were analyzed to determine compliance with the City's noise and land use compatibility standards. Traffic modeling was performed using the data obtained from the project-specific traffic impact study (included in Appendix I). This Traffic Impact Study provides data for year 2017, baseline and future conditions (see Traffic Impact Study for definitions of these scenarios). The resultant noise levels were weighed and summed over a 24-hour period to determine the L_{dn} values. The traffic noise modeling input and output files—including the 60 dBA, 65 dBA, and 70 dBA L_{dn} noise contour distances—are included in Appendix H. Table 3.10-8 shows a summary of the traffic noise levels for existing (year 2017), baseline and future conditions, with and without the project as measured at 50 feet from the centerline of the outermost travel lane.

Table 3.10-8: Existing, Baseline and Future Modeled Roadway Noise Levels

Roadway Segment	L _{dn} (dBA) 50 feet from Centerline of Outermost Lane								
	Existing No Project	Existing Plus Project	Increase over Existing No Project (dBA)	Baseline No Project	Baseline Plus Project	Increase over Baseline No Project (dBA)	Future	Future Plus Project	Increase over Future (dBA)
Sonoma Highway—Melita Road to Mountain Hawk Drive	70.7	70.9	0.2	71.0	71.1	0.1	71.4	71.5	0.1
Sonoma Highway—Mountain Hawk Drive to Los Alamos Road	69.8	70.0	0.2	70.1	70.3	0.2	70.5	70.7	0.2
Sonoma Highway—Los Alamos Road to Melita Road	70.2	70.3	0.1	70.4	70.6	0.2	70.9	71.0	0.1
Sonoma Highway—Melita Road to Elnoka Lane (project access)	71.4	71.5	0.1	71.6	71.8	0.2	72.0	72.2	0.2
Sonoma Highway—east of Elnoka Lane (project access)	71.2	71.3	0.1	71.5	71.5	0.0	71.9	72.0	0.1
Los Alamos Road—Melita Road to Sonoma Highway	60.3	60.3	0.0	60.3	60.4	0.1	60.8	60.9	0.1
Melita Road—Los Alamos Road to Project Access	56.0	56.5	0.5	56.1	56.8	0.7	57.6	58.1	0.5
Melita Road—Project Access to Sonoma Highway	55.8	56.0	0.2	56.0	56.3	0.3	57.5	57.6	0.1
Notes: dBA = A-weighted decibel Source: FCS 2017.									

The highest traffic noise levels on roadway segments adjacent to the project site would occur under Future Plus Project conditions. Projected traffic noise levels along Melita Road between project site access points and Sonoma Highway adjacent to the northwest boundary of the project site would range up to 58.1 dBA L_{dn} as measured at 50 feet from the centerline of the nearest travel lane under Future Plus Project conditions. The nearest proposed structure to the Melita Road segment is a proposed, multi-family residential unit on the northwest side of the site. The façade of this building would be located approximately 285 feet from the centerline of Melita Road. At this distance, traffic noise levels from Sonoma Highway would range up to approximately 51.1 dBA L_{dn}. These noise levels

are well within the City's "Normally Acceptable" range of up to 65 dBA L_{dn} for new multi-family residential land use developments. Therefore, implementation of the proposed multi-family residential land use would not expose persons to traffic noise levels from traffic on Melita Road in excess of acceptable standards.

As shown in Table 3.10-8, projected traffic noise levels along Sonoma Highway between Melita Road and Elnoka Lane (project access) adjacent to northeast boundary of the project site would range up to 72.2 dBA L_{dn} as measured at 50 feet from the centerline of the nearest travel lane under Future Plus Project conditions.

The nearest proposed structure to the Sonoma Highway segment is the maintenance building on the northeast side of the site. The façade of this building would be located approximately 120 feet from the centerline of Sonoma Highway. At this distance, traffic noise levels from Sonoma Highway would range up to approximately 69.3 dBA L_{dn} . These noise levels are within the City's "Normally Acceptable" range of up to 70 dBA L_{dn} for new commercial land use developments. Therefore, implementation of the proposed project would not expose persons to traffic noise levels in excess of acceptable standards.

The second closest structure to the Sonoma Highway segment would be the proposed multi-family residential units for employee housing on the northeast side of the site. The façade of this building would be located approximately 140 feet from the centerline of Sonoma Highway. At this distance, traffic noise levels from Sonoma Highway would range up to approximately 68.6 dBA L_{dn} . These noise levels exceed the City's "Normally Acceptable" range of up to 65 dBA L_{dn} , but are within the City's "Conditionally Acceptable" range of up to 70 dBA L_{dn} for new multi-family residential land use developments. Under these conditions, new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice to ensure that the interior noise level standard is maintained.

Based on the EPA's Protective Noise Levels, standard construction for residences would provide 25 dBA in exterior-to-interior noise reduction with windows closed and 15 dBA or more with windows open. With windows open, interior noise levels of the proposed multi-family residential units nearest to Sonoma Highway would not meet the interior noise standard of 45 dBA L_{dn} (i.e., 68.6 dBA–15 dBA = 53.6 dBA). Therefore, an alternative form of ventilation, such as air conditioning, that would allow windows to remain closed must be incorporated into the project to meet the interior noise level standard of 45 dBA L_{dn} (i.e., 68.6 dBA–25 dBA = 43.6 dBA). At a distance of 200 feet from the centerline of Sonoma Highway, traffic noise levels would attenuate to below 60 dBA L_{dn} , and would be within the City's "Normally Acceptable" range for new multi-family development. Therefore, mitigation requiring an alternative form of ventilation for all proposed residential units within 200 feet of the centerline of Sonoma Highway would be required in order to reduce potential traffic noise impacts to a less than significant level. A standard central air conditioning system or a central heating system would provide a habitable interior environment and meet the airflow provisions under building code requirements. It should be noted that current Energy and CALGreen Codes (Title 24, Parts 6 and 24) require the equivalent of a "summer switch" as part of the standard

installation of a central heating system, which allows the fan to circulate air without furnace operation. Implementation of Mitigation Measure (MM) NOI-1, which requires the inclusion of mechanical ventilation for units within 200 feet of the centerline of Sonoma Highway, would ensure that the project would not expose persons to traffic noise levels in excess of acceptable standards; thus, this impact would be less than significant with mitigation incorporated.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM NOI-1 To meet the City's interior noise level standard of 45 dBA L_{dn} , the proposed multi-family residential units located within 200 feet of the centerline of Sonoma Highway shall be supplied with a mechanical ventilation system to allow the windows to remain closed (as the interior noise standard would not be met with open windows).

Level of Significance After Mitigation

Less than significant impact.

Substantial Noise Increase In Excess of Standards

Impact NOI-2:	The proposed project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
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Construction Noise

A significant impact would occur if construction activities at the project site would produce a substantial increase in ambient noise levels outside the City's standard conditions of project approval limiting the hours of construction. The City has not established noise performance thresholds for construction activities. However, the City has established standard conditions of project approval that limit hours of construction to 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction is permitted on Sundays and holidays. As described in the analysis below, restricting construction activities to comply with these standard conditions of project approval that limit the hours of construction, as provided by MM NOI-2, would reduce potential impacts related to site preparation, grading, and construction to less than significant.

Noise impacts from construction activities associated with the project would be a function of the noise generated by construction equipment, equipment location, sensitivity, of nearby land uses, and the timing and duration of the construction activities.

Two types of short-term noise impacts would occur during site preparation and project construction. The first type would result from the increase in traffic flow on local streets, associated with the transport of workers, equipment, and materials to and from the project site. The transport of workers and construction equipment and materials to the project site would incrementally increase noise levels on access roads leading to the site. Because workers and construction equipment would use existing routes, noise from passing trucks would be similar to existing vehicle-generated noise on

these local roadways. Typically, a doubling of the average daily traffic (ADT) hourly volumes on a roadway segment is required in order to result in an increase of 3 dBA in traffic noise levels; which, as discussed in the characteristics of noise discussion above, is the lowest change that can be perceptible to the human ear in outdoor environments. Given the nature of the project, construction trips would not be expected to double the hourly traffic volumes along any roadway segment in the project vicinity. For these reasons, short-term intermittent noise from trucks would be minor when averaged over a longer time-period and would not be expected to exceed existing peak noise levels in the project vicinity. Therefore, short-term construction-related noise impacts associated with worker and equipment transport to the project site would be less than significant.

The second type of short-term noise impact would result from use of construction equipment during site-preparation, grading, and construction activities. 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-site. Thus, the noise levels vary as construction progresses. Despite the variety in the types and sizes of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction noise ranges to be categorized by work phase. Table 3.10-1 lists the maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the equipment and a noise receptor.

The site preparation phase, which includes excavation and grading activities, tend to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery and compacting equipment, such as bulldozers, draglines, backhoes, front loaders, roller compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. Operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of the project is expected to require the use of scrapers, bulldozers, water trucks, haul trucks, and pickup trucks. Based on the information provide in Table 3.10-1, the maximum noise level generated by each scraper is assumed to be 85 dBA L_{max} at 50 feet from this equipment. Each bulldozer would generate 85 dBA L_{max} at 50 feet. The maximum noise level generated by graders is approximately 85 dBA L_{max} at 50 feet. Each doubling of sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, a reasonable worst-case combined noise level during this phase of construction would be 90 dBA L_{max} at a distance of 50 feet from the acoustic center of a construction area. This would result in a reasonable worst-case hourly average of 86 dBA L_{eq} . The acoustical center reference is used because construction equipment must operate at some distance from one another on a project site, and the combined noise level as measured at a point equidistant from the sources would (acoustic center) be the worst-case maximum noise level.

The project site is bordered by single-family residential land uses to the east, north, and northwest. The nearest off-site residence would be located approximately 80 feet from the acoustic center of construction activity where multiple pieces of heavy machinery would operate. At this distance,

construction noise levels at the exterior facade of the nearest residential home would be expected to range up to 86 dBA L_{max} , with a worst case hourly average of 82 dBA L_{eq} , intermittently, when multiple pieces of heavy construction equipment operate simultaneously at the nearest construction footprint.

As noted above, there is no quantitative significance threshold that applies to the project's construction-related impacts. Although there could be a relatively high single event noise exposure potential causing an intermittent noise nuisance, the effect on longer-term (hourly or daily) ambient noise levels would be small but could result in an adverse health impact of annoyance or sleep disturbances at nearby sensitive receptors. Therefore, in compliance with the City's standard conditions of project approval, noise producing construction activities shall be restricted to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction shall be permitted on Sundays or on holidays. Restricting construction activities to these stated time-periods, as well as implementing the best management noise reduction techniques and practices outlined in MM NOI-2, would ensure that construction noise would not result in sleep disturbances at nearby off-site sensitive receptors and would ensure compliance with the City's standard conditions of project approval). Therefore, the potential short-term construction noise impacts on sensitive receptors in the vicinity of the project site would be less than significant with mitigation incorporated.

Traffic Noise Impacts

The City of Santa Rosa does define "substantial increase" for mobile noise sources. Therefore, for purpose of this analysis, a substantial increase is based on the following criteria. As noted in the characteristics of noise discussion, audible increases in noise levels generally refer to a change of 3 dBA or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. A change of 5 dBA is considered the minimum readily perceptible change to the human ear in outdoor environments. Therefore, a significant impact would occur if the project would cause the L_{dn} to increase by any of the following:

- 5 dBA or more even if the L_{dn} would remain below normally acceptable levels for a receiving land use.
- 3 dBA or more, thereby causing the L_{dn} in the project vicinity to exceed normally acceptable levels and result in noise levels that would be considered conditionally acceptable for a receiving land use.
- 1.5 dBA or more where the L_{dn} currently exceeds conditionally acceptable levels.

The highest traffic noise level increase with implementation of the project would occur along Melita Road from Los Alamos Road to project site access,¹⁵ under Baseline Plus Project conditions. Along this roadway segment, the project would result in an increase of 0.7 dBA under plus project conditions. This increase would not be perceptible to the human ear and is well below the 5 dBA L_{dn} increase that would be considered a substantial permanent increase in ambient noise levels

¹⁵ Project site access, as referenced in the traffic study and shown on the proposed site plans, is located along Melita Road between Susan Road and Melita Court.

compared to noise levels that would exist without the project. Therefore, this traffic-noise related impact would be less than significant.

Stationary Noise Source

The project would include new stationary noise sources such as parking lot activities and mechanical ventilation system equipment. Santa Rosa City Code 17-16.120 states that “it is unlawful for any person to operate any machinery, equipment, pump, fan, air-conditioning apparatus or similar mechanical device in any manner so as to create any noise, which would cause the noise level at the property line of any property to exceed the ambient base noise level by more than five decibels (+5 dBA).” Therefore, a significant impact would occur if new stationary noise sources would result in an increase in ambient noise levels of more than 5 dBA L_{dn} above the City’s ambient base noise level thresholds shown in Table 3.10-7.

Typical parking lot activities include people conversing, doors shutting, or vehicles idling generate noise levels of approximately 60 dBA to 70 dBA L_{max} at 50 feet. These activities are expected to occur intermittently throughout the day, as residents, visitors, staff and deliveries arrive and leave the parking lot areas. The nearest off-site receptors would be located approximately 80 feet from the nearest acoustic center of parking lot activity. The acoustical center reference is used because parking lot activities occur at some distance from one another across a parking lot and the combined noise level as measured at a point equidistant from the sources (acoustic center) would be the reasonable worst-case maximum noise level. Assuming that each parking stall nearest this closest receptor were to fill and empty during the peak noise hour (resulting in 22 total parking events), the noise level could range up to 54 dBA L_{eq} during the peak noise hour at the nearest receptor. When averaged over a 24-hour period, parking lot activity noise levels would not exceed 55 dBA L_{dn} at the nearest off-site receptor location. As indicated by the long-term ambient noise measurement LT-1, existing weekday 24-hour average day/night noise levels in the project vicinity range up to 53.6 dBA L_{dn} . Long-term ambient noise measurement LT-1 was taken at an acoustically equivalent location compared with the proposed Building C parking lot. As noted in the existing conditions discussion, the selection of this acoustically equivalent location was conducted in compliance with the methodology and site selection guidance of the Caltrans Technical Noise Supplement (September 2013). The noise measurement LT-1 location was setback from Sonoma Highway the same distance and with equivalent terrain and shielding as where the proposed parking lot would be located. Thus, this measurement provided noise levels that would be comparable to those that would be found near the proposed Building C location. Therefore, the results from LT-1 are a good representation of the background noise levels that would be typical of both of these locations. Therefore, noise levels generated by parking lot activities would not increase existing ambient noise levels by 5 dBA L_{dn} above existing background noise levels. Thus, the impact of noise produced by project-related parking lot activities (a stationary source) to sensitive off-site receptors would be less than significant.

At the time of preparation of this analysis, details were not available pertaining to proposed mechanical ventilation systems for the project; therefore, a reference noise level for typical mechanical ventilation systems was used. Noise levels from typical residential mechanical ventilation equipment are anticipated to range up to approximately 60 dBA L_{eq} at a distance of 25 feet. Mechanical ventilation systems could be located as close as 100 feet to the nearest off-site receptors, which are

the residential homes that border the east side of the project site. At this distance, noise generated by mechanical ventilation equipment would attenuate to approximately 48 dBA L_{eq} at the nearest off-site residential receptor. As indicated by the short-term noise monitoring data, ambient noise levels in the area range up to approximately 47.1 dBA L_{eq} during the day. Therefore, mechanical ventilation equipment operational noise levels would not increase existing ambient noise levels by 5 dBA at any property lines adjacent to the project site. The impact of mechanical ventilation equipment operational noise levels on sensitive off-site receptors would be less than significant.

Other stationary noise sources would include landscaping equipment. However, in contrast to parking lot activities and mechanical equipment operations analyzed above, landscaping equipment operations would occur only during daytime hours. Typical landscaping operations would occur for less than an hour in the vicinity of any off-site receptor, then the equipment would move to operate at other locations throughout the project site. Therefore, landscaping equipment operational noise levels when averaged over the 7:00 a.m. to 7:00 p.m. daytime hours would not result in an exceedance of the City's 8-hour average daytime noise performance standard of 55 dBA L_{eq} for receiving residential land uses (See Table 3.10-7). Therefore, impact of landscaping equipment operational noise levels on sensitive off-site receptors would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

- MM NOI-2** To reduce potential construction noise impacts, the following multi-part mitigation measure shall be implemented for the project:
- 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.
 - The construction contractor shall locate stationary noise-generating equipment as far as is feasible 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 to the extent feasible.
 - The construction contractor shall prohibit unnecessary idling of internal combustion engines.
 - 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.
 - The construction contractor shall limit noise producing construction activity, including deliveries and equipment idling, to the daytime hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction is permitted on Sundays and holidays.

Level of Significance After Mitigation

Less than significant impact.

3.10.5 - Cumulative Impacts

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 (approximately 0.25-mile) would be the area most affected by project activities. Furthermore, given the properties and the distance between other projects (more than 0.5-mile away), project-related noise would not combine with other sources further away.

The project's construction noise levels may cause a temporary substantial increase in noise levels at nearby receptors. Project-specific mitigation is proposed that would require implementation of construction noise attenuation measures to reduce noise levels. Other cumulative projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA, that would expose nearby sensitive receptors to excessive construction noise would be required to implement similar mitigation. Because construction noise is a localized phenomenon, the properties of noise are not additive, and construction activity noise likely would not overlap due to distance between projects. Therefore, a less than significant cumulative impact related to construction noise would occur.

The project's proposed multi-family residential units proposed nearest to Sonoma Highway may be exposed to interior noise levels in excess of acceptable standards (45 dBA L_{dn}) when windows are open. Project-specific mitigation is proposed, which would require such units to include an alternate form of ventilation to allow for windows to remain closed. Other cumulative projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, as well as other relevant cumulative projects as required by CEQA, that would expose persons to unacceptable interior noise levels would be expected to implement similar mitigation that would reduce interior noise to acceptable levels. Because exposure to on-site noise is a localized impact, the project would not likely combine with other cumulative projects and thus would not result in a significant cumulative impact related to noise exposure.

Given the above information, the project, in conjunction with other existing, planned, and probable future projects, would result in a less than significant cumulative impact related to noise.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

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3.11 - Population and Housing

3.11.1 - Introduction

This section describes existing population and housing in the region, the City, and the project site and vicinity as well as the relevant regulatory framework. This section also evaluates the potential impacts related to population and housing that could result from implementation of the project. Information included in this section is based on databases and reports maintained by the California Department of Finance, Association of Bay Area Governments (ABAG), and the City of Santa Rosa.

No population and housing comments were received as part of the Environmental Impact Report (EIR) public scoping process.

3.11.2 - Environmental Setting

Population

San Francisco Bay Area

ABAG conducts long-term forecasts of population, households, and employment for the nine-county¹ San Francisco Bay Area (Bay Area) to project growth in the region. The Bay Area has experienced population growth over the past several decades, and that growth is expected to continue into the foreseeable future. According to ABAG's Projections 2040, it is estimated that approximately 7,174,920 residents were living in the Bay Area in 2010 and that the Bay Area's population will grow to approximately 9,652,950 by 2040.²

City of Santa Rosa

The California Department of Finance estimates the City of Santa Rosa has a population of 175,625 an average household size of 2.65, and 68,927 dwelling units as of January 1, 2019.³ The City has been growing at an average annual growth rate of around 1.0 percent and now has five times the population it originally had in 1960. ABAG projects the City's population to continue to grow as people move to find more affordable housing options in the Bay Area. The City's historic and projected population growth between 1970 and 2040 is summarized in Table 3.11-1. This table shows the ABAG estimate that the City of Santa Rosa will grow to 221,800 by 2040.

Table 3.11-1: Santa Rosa Historic and Projected Population Growth

Year	Population	Change from previous (Percent)
1960	31,027	—
1970	50,006	61 percent
1980	82,658	65 percent

¹ The Bay Area is defined as the nine counties that make up the region: Sonoma, Marin, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco Counties.

² Association of Bay Area Governments (ABAG). 2019. Plan Bay Area 2040, Projections 2040. Website: <http://projections.planbayarea.org/>.

³ California Department of Finance. 2019. E-1 Population Estimates for Cities, Counties, and the State—January 1, 2018 and 2019. Website: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>.

Year	Population	Change from previous (Percent)
1990	113,313	37 percent
2000	147,595	30 percent
2010	167,815	14 percent
2020	184,100	10 percent
2030	201,800	10 percent
2040	221,800	10 percent
Average Annual Compound Growth Rate		3.4 percent
Source: California Department of Finance 2017.		

Project Site

The project site does not contain any existing structures, and therefore does not have any existing population.

Housing

San Francisco Bay Area

Growth in the Bay Area housing supply slowed down between 2010 and 2014 compared with previous decades, likely in part because of the effects of the Great Recession. Specifically, the Bay Area added an average of 9,600 units per year between 2010 and 2014, compared with an average of 23,200 units per year between 2000 and 2010. During the 1990s, the Bay Area averaged an additional 18,700 units per year.⁴

ABAG periodically develops Bay Area regional projections for population, households, and economic activity. These projections span four decades and also include forecasts of 25 years into the future. ABAG calculates these projections based on a combination of economic relationships, policy development and other factors. Based on the ABAG projections for households from 2010 to 2040, the compound annual growth rate is 4.04 percent. This rate is calculated from the average growth rate of each 5-year period.⁵

City of Santa Rosa

The historic housing unit growth in the City of Santa Rosa is calculated from 2000 to 2019. The City's number of housing units has continued to grow at a compound annual growth rate of 1.5 percent. Table 3.11-2 summarizes the City's housing growth between 2000 and 2019.

⁴ Association of Bay Area Governments (ABAG). 2015. Executive Summary—State of the Region 2015: Economy, Population and Housing. Website: <http://reports.abag.ca.gov/sotr/2015/executive-summary.php>.

⁵ Association of Bay Area Governments (ABAG). 2013. Bay Area Regional Projections. Website: <https://abag.ca.gov/planning/research/forecasts.html>.

Table 3.11-2: Santa Rosa Historic and Projected Housing Unit Growth

Year	Dwelling Units	Change from Previous (Percent)
2000	57,514	—
2010	67,396	17.0 percent
2015	68,551	1.7 percent
2016	68,803	0.4 percent
2017	69,114	0.5 percent
2018	68,265	-1.2 percent
2019	68,927	0.9 percent
2035	96,295	39.0 percent
Compound Annual Growth Rate		1.5 percent
Source: California Department of Finance 2017.		

Affordable Housing

San Francisco Bay Area

The California Department of Housing and Community Development and ABAG determined that the Bay Area must plan for approximately 187,990 new housing units from 2014 to 2022.⁶ Of this total amount, 46,680 units must be made available for persons with a Very Low income and 28,940 units for Low income. Roughly, 40 percent of housing would need to be made affordable in order to meet these objectives.

City of Santa Rosa

The Santa Rosa City Council adopted the Housing Element update that addressed the City's housing needs from 2015 to 2023. In accordance with set Regional Housing Needs Allocation (RHNA) goals, the City is expected to accommodate 4,662 units over an 8-year period (2015–2023), or an average of 583 units per year. State law requires local governments to plan for and facilitate the production of housing for persons of all income ranges and special needs (including, among other groups, seniors).

The 2017 General Plan Annual Review describes the most recent housing needs information for the City of Santa Rosa. The report shows the City permitted 350 housing units in 2017 that meet the moderate and above moderate income category.⁷

⁶ Association of Bay Area Governments (ABAG). Regional Housing Need Plan, San Francisco Bay Area 2014–2022. About the Regional Housing Needs Allocation. Website: https://abag.ca.gov/files/ABAG_Final_RHNA_Publication.pdf.

⁷ City of Santa Rosa. Annual Review 2017, Page 5, Units Issued Building Permits by Income Category. Website: <https://srcity.org/392/General-Plan>.

Employment

San Francisco Bay Area

The Bay Area region has experienced a strong recovery since the 2007–2009 Great Recession, with job growth proceeding at a pace greater than that experienced by the State of California or the United States as a whole. By mid-2013, the Bay Area had regained all of the jobs lost during the Great Recession. However, if 2000 is used as the baseline year, the average rate of growth is much less—close to zero since the peak of the dot-com boom era.⁸

City of Santa Rosa

According to the General Plan 2035 EIR, Santa Rosa had 100,960 jobs in 2010. The number of jobs was estimated to increase to a total of 128,400 by 2035.

Project Site

The project site is vacant and therefore does not have any existing opportunities for employment.

3.11.3 - Regulatory Setting

Federal

No federal plans, policies, regulations, or laws related to population and housing are applicable to this analysis.

State

California Housing Element Law

The State Housing Element Law (Government Code Chapter 1143, Article 10.6, Sections 65580 and 65589) requires each city and county to adopt a general plan for future growth. This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. The amount of housing that must be accounted for in a local housing element is determined through a process called the RHNA. In the RHNA process, the State gives each region a number representing the amount of housing needed, based on existing need and expected population growth.

At the State level, the California Department of Housing and Community Development (HCD) estimates the relative share of California's projected population growth that would occur in each county in the State, based on Department of Finance population projections and historic growth trends. Where there is a regional council of governments, as in the San Francisco Bay Area (in this case, ABAG), the HCD provides the regional housing need to the council. The council then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares provides cities and counties the opportunity to comment on the proposed allocations. The HCD oversees the process to ensure that the council of governments distributes its share of the State's projected housing need. Each city and county must update its general plan housing element on a regular basis pursuant to the requirements of Government Code Section 65580, *et seq.* Among

⁸ Association of Bay Area Governments (ABAG). 2015. Executive Summary—State of the Region 2015: Economy, Population and Housing. Website: <http://reports.abag.ca.gov/sotr/2015/executive-summary.php>.

other things, the housing element must incorporate policies and identify potential sites that would accommodate a city's or county's share of the regional housing need. Before adopting an update to its housing element, a city or county must submit the draft to the HCD for review. The HCD will advise the local jurisdiction whether its housing element complies with the provisions of California Housing Element Law. The regional councils of governments are required to assign regional housing shares to the cities and counties within their region on a similar schedule. At the beginning of each cycle, the HCD provides population projections to the regional councils of governments, who then allocate shares to their cities and counties. The shares of the regional need are allocated before the end of the cycle so that the cities and counties can amend their housing elements by the deadline.

Regional

ABAG Regional Housing Needs Assessment

Acting in coordination with the HCD, ABAG determines the Bay Area's regional housing need based on regional trends, projected job growth, and existing needs. Santa Rosa's fair share of the RHNA for January 2015 through June 2022 was calculated as 5,083 units, or about 726 units per year. The RHNA determination includes production targets addressing the housing needs of a range of household income categories. A total of about 1,528 units, or 32 percent of the RHNA target, must be affordable to households making up to 80 percent of the area's median income. The United States Department of Housing and Urban Development (HUD) determines the median family income for the Santa Rosa Metropolitan Statistical Area, which includes Sonoma County. In 2019, the area's median income for a single person household was \$65,300 and \$93,300 for a household of four people.⁹

Local

City of Santa Rosa

Santa Rosa General Plan 2035

The Santa Rosa General Plan 2035 establishes the following goals and policies related to housing and population:

- **GM-A:** Prevent urban sprawl by focusing growth within the Urban Growth Boundary
- **GM-A-1:** Contain urban development in the Santa Rosa area within the city's Urban Growth Boundary.
- **Goal H-A:** Meet the housing needs of all Santa Rosa residents.
- **Policy H-A-1:** Ensure adequate sites are available for development of a variety of housing types for all income levels, throughout the City, such as single- and multifamily units, mobile homes, transitional housing, and homeless shelters
- **Policy H-A-2:** Pursue the goal of meeting Santa Rosa's housing needs through increased densities, when compatible with existing neighborhoods. Development of existing and new higher-density sites must be designed in context with existing, surrounding neighborhoods. The number of affordable units permitted each year and the adequacy of higher-density sites shall be reported as part of the General Plan Annual Review report.

⁹ California Department of Housing and Community Development. 2019. Memorandum. State Income Limits for 2019. May 6.

- **Goal H-B:** Maintain and rehabilitate, as needed, the existing affordable housing supply within Santa Rosa.
- **Goal H-C:** Expand the supply of housing available to lower-income households.
- **Policy H-C-1:** Implement the Housing Allocation Plan to increase the number of affordable units in Santa Rosa, through collection of Housing Impact Fees. Utilize fees generated for the development of housing units affordable to extremely low-, very low-, and low-income households.
- **Policy H-C-5:** Continue to provide funding for affordable housing projects, particularly if a portion of the project units are targeted to extremely low-income households.
- **Policy H-C-15:** Encourage new affordable housing development to provide amenities for residents, such as on-site recreational facilities, children’s programs (day care or after-school care), and community meeting spaces.
- **Policy H-C-17:** Evaluate reinstatement of zoning code provisions exempting sites designated Medium Density Residential and Medium High Density Residential from rezoning when affordable housing is proposed.
- **Goal H-D:** Provide housing for households with special needs.
- **Policy H-D-1:** Continue existing programs for persons with special needs, including disabled persons, developmentally disabled persons, elderly, homeless, large families, single parent households, and farmworkers. Programs include the Section 8 Housing Choice Voucher Rental Assistance Program and funding for services and organizations with Community Development Block Grant and HOME funds. When funding is available, serve households with special needs through the Housing High Rehabilitation and Conservation Program and the Community Housing Development Organization.
- **Policy H-D-2:** Ensure that new units are appropriate for households with special needs by conditioning new multifamily construction to meet federal and state requirements for accessibility and/or adaptability for disabled persons.
- **Policy H-D-3:** Evaluate issues of “visitability” in residential building design and develop a program for implementation of appropriate policies and/or standards.
- **H-D-4:** Investigate and promote incorporation of universal design features in new residential construction by developing an ordinance based on the state’s voluntary model ordinance.
- **Policy H-D-11:** Encourage the development of affordable housing for the elderly, particularly for those in need of assisted and skilled nursing care. Continue to provide funding and offer incentives such as density bonuses, reduced parking requirements, design flexibility, and deferred development fees.
- **H-D-14:** In new senior housing built receiving any development incentives or money from the city, require that a substantial portion, at least 25 percent, be available to low income seniors.
- **Goal H-E:** Promote equal access to housing.

- **Policy H-E-1:** Eliminate discrimination in housing opportunities in Santa Rosa and ensure that access to housing will not be denied on the basis of race, ethnic or national origin, religion, marital status, sexual orientation, age, or disability. As an exception, mobile home parks and other developments designed specifically for seniors or the disabled will be permitted to exclude children as permanent residents.
- **Goal H-F:** Remove constraints to very low- and low-income housing production.
- **Goal H-G:** Develop and rehabilitate energy-efficient residential units.

Growth Management (City Municipal Code Chapter 21-03)

The City's Growth Management Ordinance, which was in effect through 2020, placed a limit on the number of allotments of housing permits that could be granted annually. The total number of new allotments that were made available each year for the calendar years 2001–2005 was 950 each year; for the calendar years 2006–2010 it was 900 each year; for the calendar years 2011–2015 it was 850 per year; and for the calendar years 2016–2020 was/is 800 per year. The Growth Management Ordinance sunsetted at the end of 2020 and is no longer in effect.

Inclusionary Housing Ordinance

Santa Rosa City Municipal Code Chapter 21-02, Inclusionary Housing, promotes the development of affordable housing in Santa Rosa. Per Section 21-02.090, all residential development shall be assessed a housing impact fee, which is used to support the development of affordable housing within the City limits. Chapter 21-02.080, Exemptions, describes the types of projects that are exempt from this ordinance, which includes community care and health care facilities.

3.11.4 - Impacts and Mitigation Measures

Significance Criteria

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G, to determine whether impacts related to population and housing are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Approach to Analysis

Impacts related to population, housing, and employment were determined by analyzing existing and projected population, housing, and employment estimates provided by the California Department of Finance, ABAG, and the Santa Rosa General Plan 2035. The project's impacts were evaluated by determining their consistency with these projections, estimates, and the Santa Rosa General Plan 2035.

Impact Evaluation

Unplanned Population Growth

Impact POP-1: The proposed project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Direct population growth is a result of developing residential units. The project would involve construction of 676 living units, at buildout, resulting in an increase of around 975 residents, as estimated in Table 3.11-3.

Table 3.11-3: Estimated Number of People in Project at Buildout

Type of Dwelling	Units	Number of Bedrooms	Residents per Unit ¹	Population
Cottages (detached)	74	2	1.42	105.08
Apartments (attached)	528	2	1.42	749.76
Care Center (attached)	62	1	1.42	88.04
Employee Housing (attached)	8	2	2.65	21.20
Employee Housing (attached)	4	3	2.65	10.60
Total	676	—	—	974.68

Source:

¹ 2.65 persons per household is from California Department of Finance. 2019. E-1 Population Estimates for Cities, Counties, and the State—January 1, 2018 and 2019. Website: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>.

1.42 persons per cottage unit, apartment, and care center is from Oakmont Senior Living

The Santa Rosa General Plan 2035 estimates the City at buildout under the Growth Management Program to have 96,295 housing units and a population of 237,000 at buildout by 2035, which represents an increase of 60,201 residents and 27,181 housing units over the next 15 years. This project would only account for approximately 1.6 percent of the expected population growth by 2035, and approximately 2.5 percent of the expected growth in housing units anticipated by the General Plan. Moreover, it is expected that many of the future project residents already live in Santa Rosa and the surrounding Sonoma County area and, therefore, would move out of their homes to move into the new homes created as part of the project. As such, these population projections are a conservative estimate. In addition, the project specifically addresses General Plan Policy H-D-11 and Goal H-E to create housing for seniors and the elderly. The project would not cause substantial unplanned population growth because it is consistent with the City's Housing Policies and General Plan projections.

As a continuing care and health facility, the Elnoka project would not be required to include affordable housing or pay housing impact fees consistent with the HAP because the project would be exempt from Santa Rosa City Municipal Code Chapter 21-02.040. Similarly, the project would not be

subject to the commercial linkage fee because it does not include commercial development. Continuing care and health facilities are specifically listed as exempt under Santa Rosa City Municipal Code Chapter 21-02.080. As a result, substantial unplanned population growth would not be directly induced with implementation of the project, and this impact would be less than significant.

Pursuant to the CEQA Guidelines, indirect population growth occurs when a project creates substantial employment opportunities, provides new infrastructure that can lead to additional growth, and/or removes barriers to growth. For example, a development could create jobs that might attract a substantial amount people to the local area. In the case of the Elnoka Continuing Care Retirement Community (CCRC) Project, the site is located within the City limits and the UGB, and can be served by existing transportation and utility infrastructure. Furthermore, given the nature of the project, it would draw construction workers from the local labor pool and not result in long-term population growth or permanent relocation of construction workers. Once operational, the project is expected to employ approximately 194 employees with an average of 75 employees on-site daily. Given the nature of the project and types of positions, such as nurses, health care workers, and maintenance workers, these employees would be expected to be drawn from the local labor force. Furthermore, the project proposes 12 units for employees and their families to live on-site, in addition to the residents, once the project becomes operational. Therefore, the substantial unplanned population growth would not be indirectly induced with implementation of the project, and this impact would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

People or Housing Displacement and Replacement Housing

Impact POP-2:	The proposed project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing elsewhere.
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As previously noted, three single-family residences were destroyed in October 2020 as a result of the Glass Fire. The structures were vacant and were scheduled for demolition as part of project implementation.

The project would include construction of approximately 676 living units. As such, the project would result in a net increase of housing units and would not displace any housing units or residents. In

addition, the City of Santa Rosa plans to add 27,181 more housing units Citywide by 2035.¹⁰ Therefore, this impact would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.11.5 - Cumulative Impacts

The geographic scope of the cumulative population and housing analysis is the City of Santa Rosa and its Sphere of Influence, where anticipated future development would occur.

Population Growth

The project, located within the Santa Rosa City limits, is anticipated to provide housing for roughly 975 residents. Other residential projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA, would also add residents, although fewer than the project. Santa Rosa General Plan 2035 estimates the City at buildout to have a population of 237,000 by 2035 under the Growth Management Program. This represents an increase of 60,201 residents. This project would account for only 1.6 percent of the expected population growth by 2035. The other residential projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA, would account for a smaller percentage of the 2035 population. As such, the project, in conjunction with other cumulative projects, would result in a less than significant cumulative impact associated with direct population growth.

The project is expected to employ approximately 194 employees, with an average of 75 on-site daily. These employees would be expected to be drawn from the local labor force. Other projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA, that are expected to generate employment opportunities, such as the retail projects and the wineries, are likewise expected to draw employees primarily from the local labor force. As such, the project, in conjunction with other cumulative projects, would result in a less than significant cumulative impact associated with indirect population growth, mainly related to employment opportunities.

Housing Displacement

The project would not require the removal of any existing housing. Santa Rosa plans to add 27,181 more housing units by 2035, thus continuing to provide residents with a variety of housing options. The same availability of options would be provided to any residents displaced by the other cumulative projects listed in Table 3-1, as well as other relevant cumulative projects as required by

¹⁰ City of Santa Rosa. Santa Rosa General Plan 2035, Section 2-5. 2009. Website: <https://www.srcity.org/DocumentCenter/View/3095/Santa-Rosa-2035-General-Plan-PDF>. Accessed May 2019.

CEQA, although any displacement is expected to be minimal. As such, the project, in conjunction with other cumulative projects, would result in a less than significant cumulative impact associated with displacement of housing or people.

Overall

Overall, given the above information, the project, in conjunction with other existing, planned, and probable future projects, would result in a less than significant cumulative impact related to population and housing.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

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3.12 - Public Services

3.12.1 - Introduction

This section describes existing conditions related to public services in the City of Santa Rosa and project area, as well as the relevant regulatory framework. This section also evaluates the potential impacts related to public services that could result from implementation of the project. Descriptions and analysis in this section are based on information contained in the City of Santa Rosa General Plan 2035; police, fire, school, and library staff reports; and California Department of Education data. No public services comments were received as part of the Environmental Impact Report (EIR) public scoping process.

3.12.2 - Environmental Setting

Fire Protection and Emergency Medical Services

City of Santa Rosa

The Santa Rosa Fire Department (SRFD) is responsible for responding to emergency incidents within the City. The SRFD also serves through contract and aid agreements with the Sonoma County Fire Protection Districts.¹ In addition, the SRFD services include protecting life, property and the environment from fire, explosion, and hazardous materials incidents. The SRFD responds to structure, wildland, and other fires; alarm responses; medical emergencies; hazardous materials incidents; automobile accidents; and citizen calls for assistance. The SRFD also implements the Santa Rosa Emergency Operations Plan, which addresses how the City would respond to extraordinary events or disasters, from preparation through recovery.

The SRFD operates 10 fire stations and is staffed by 126 emergency response personnel, 20 administrative and support personnel for a total of 146 employees. The SRFD responds to more than 25,000 calls for service per year specific to fire, emergency medical, rescue, and hazardous materials incidents. The SRFD provides fire suppression, rescue, first response emergency medical services, operations-level hazardous materials response, fire prevention, and life-safety services from all 10 fire stations covering 42 square miles within the service area. As of December 2016 (the most recent data available), the SRFD was upgraded from a Class 3 rating to a Class 1 rating by the Insurance Service Office (ISO),² which rates fire departments on their ability to provide efficient, adequate service. The ISO evaluates over 40,000 fire departments nationwide, with only 178 earning the highest ranking of a Class 1 Rating as of 2016.³

Santa Rosa General Plan 2035 Policy PSF-E-1 established a response time standard for emergency calls that included arrival within 5 minutes of notification of an emergency call and within 9 minutes of notification of fire suppression emergency. However, in 2007, the City Council modified the Fire Department Response Time Standard to be in compliance with National Fire Protection Association

¹ City of Santa Rosa Fire Department (SRFD). 2019. Department Overview. Website: <https://www.srcity.org/395/About-Us>. Accessed May 2019.

² ISO is used to determine homeowner issuance. A Class 1 represents exemplary training, adequate fire hydrant locations, stations, equipment, etc.

³ City of Santa Rosa Fire Department (SRFD). 2016. Strategic Plan 2016-2021. Website: <http://ca-santarosa.civicplus.com/430/Strategic-Plan>. Accessed April 7, 2017.

(NFPA) 1710 recommendations. The current Fire Department Response Time Standard is 4 minutes or less to 80 percent of emergency calls, 5 minutes or less to 90 percent of emergency calls, and 6 minutes or less to all emergency calls. Currently, the SRFD is not achieving the established response time standard, but is 72.68 percent compliant.⁴

In 2016, the SRFD commissioned a Standards of Coverage and Deployment Plan (Appendix K) to evaluate community risks, response resources, deployment strategies and service levels in order to establish response time goals and standards for measuring the effectiveness of fire department services and the deployment of its resources. As part of that exercise, the relocation of Station No. 6 to a location at or near Sonoma Highway and Fairway Drive was evaluated and found to have merit. It was determined that the relocation of Station No. 6 would improve first-due coverage in this sector of the city and improve the effective response force coverage in the Station No. 7 area.⁵

In October 2017, a series of wildfires occurred in Northern California—including Sonoma County and the City of Santa Rosa—resulting in some of the deadliest wildfires to occur in California history. In Santa Rosa, the Tubbs Fire destroyed thousands of homes and resulted in dozens of deaths. According to California Department of Forestry and Fire Protection (CAL FIRE) maps, the area around Trione-Annadel State Park experienced heavy fire damage. The Nuns Fire also burned an area across Sonoma Highway in Hood Mountain Regional Park and the nearby Kenwood community.⁶ In September and October 2020, the Glass Fire destroyed the three single family homes on site.

Project Site

No fire station exists on the project site. There are two fire stations located within approximately 2 miles of the project site. Station No. 6, at 205 Calistoga Road, is less than 2 miles northwest of the project site, and Station No. 7, at 6590 Stonebridge Drive, is less than 0.5-mile southeast of the project site. The current emergency access point to the project site is from Elnoka Lane via Susan/Brand Road. There are existing fire hydrants along Susan/Brand Road adjacent to the project site.

Police Protection

City of Santa Rosa

The Santa Rosa Police Department provides law enforcement to the City of Santa Rosa. The Santa Rosa Police headquarters are located at 965 Sonoma Avenue in downtown Santa Rosa. The Santa Rosa Police Department is organized into three principal divisions: Field Services (Patrol Bureau and Traffic Bureau), Special Services (Investigations Bureau and Support Bureau), and Technical Services (Communications Bureau and Records Bureau). Officers are assigned to eight patrol teams in the Field Services Division, which are divided among various beats. Under the field services division, officers are assigned to a beat for 6 months at a time. Lieutenants manage patrol teams composed of Sergeants, Patrol Officers, and field and evidence technicians.⁷

⁴ Anthony Gossner, Fire Chief, Santa Rosa Fire Department (SRFD). Personal communication: e-mail. December 3, 2019.

⁵ Santa Rosa Fire Department (SRFD). Emergency Services Consulting International, Standards of Coverage and Deployment Plan for the City of Santa Rosa Fire Department, 2016, page 123.

⁶ Los Angeles Times. October 23, 2017. "Here's where more than 7,500 buildings were destroyed and damaged in California's wine country fires." Krishnakumar, Priya, Joe Fox, and Chris Keller. Website: <http://www.latimes.com/projects/la-me-northern-california-fires-structures/>.

⁷ City of Santa Rosa. 2009. General Plan 2035 Draft Environmental Impact Report. Website: <http://www.srcity.org/392/General->

The Santa Rosa Police Department does not have established response time standards. Table 3.12-1 summarizes the Police Department’s average response times to Priority 1, 2, and 3 calls between 2008 and 2018. Average response times in 2016 increased by 14 percent for Priority 1 calls, 12 percent for Priority 2 calls, and 4 percent for Priority 3 calls since 2008. Similarly, 2018 response times increased from 2016 averages.

Table 3.12-1: Average Police Call Times (2008 to 2018)

Call Type	Response Time (minutes)		
	2008	2016	2018
Priority 1	5 minutes 30 seconds	6 minutes 25 seconds	6 minutes 26 seconds
Priority 2	9 minutes 30 seconds	10 minutes 47 seconds	12 minutes 23 seconds
Priority 3	20 minutes 44 seconds	21 minutes 33 seconds	26 minutes 16 seconds
Source: Santa Rosa Police Department, 2009, 2016, 2017.			

Project Site

No police station exists on the project site. The closest police station, at 965 Sonoma Avenue, is approximately 4 miles southwest of the project site. There is an existing emergency access point to project site from Elnoka Lane via Susan/Brand Road.

Schools

City of Santa Rosa

Elementary school-age residents located in the eastern portion of the City attend facilities in the Rincon Valley Unified School District (grades K–8), which is one of eight partner elementary districts. The District has a total capacity of 3,700 students. A Demographic Report prepared by Superintendent Dr. Tony Roehrick from the Rincon Valley Union Elementary School District indicates that 3,544 students were enrolled in the District in school year 2016/17.⁸ Based on this report, the District is expected to increase by 86 students (2.43 percent) in the 2022/23 school year and is expecting to have a 16-student increase (0.45 percent) in the next school year (2017/18). According to the California Department of Education, 2018/2019 enrollment (the most recent data available) was only 3,307 students.⁹ Table 3.12-2 provides enrollment information for the past 6 years.

Plan. Accessed April 10, 2017.

⁸ Rincon Valley Union Elementary School District Demographic Study. 2016/17. Dr. Tony Roehrick.

⁹ California Department of Education. DataQuest. Website: <https://dq.cde.ca.gov/dataquest/dataquest.asp>. Accessed October 29.

Table 3.12-2: Rincon Valley Unified School District Enrollment (2011–2019)

School Year	Enrollment Total
2011–2012	3,353
2012–2013	3,373
2013–2014	3,489
2014–2015	3,626
2015–2016	3,562
2016–2017	3,544
2017–2018	3,442
2018–2019	3,307
Source: California Department of Education 2019	

Middle school and high school-age residents of the City attend facilities in the Santa Rosa City Schools District (grades 1–12). The California Department of Education indicates that 11,049 students were enrolled in the Santa Rosa City middle- and high-schools during the 2018–2019 school year;¹⁰ the most recent year information was available. Table 3.12-3 provides enrollment data for the years 2011 through 2019.

Table 3.12-3: Santa Rosa City High School District Profile (2011–2019)

School Year	Enrollment
2011–2012	11,354
2012–2013	11,233
2013–2014	11,195
2014–2015	11,244
2015–2016	11,295
2016–2017	11,187
2017–2018	11,119
2018–2019	11,049
Source: California Department of Education 2019.	

The General Plan 2035 EIR identifies that both school districts are currently at or near capacity. In addition, the number of students enrolled in Santa Rosa schools is estimated to increase as the population grows toward 233,520 by buildout in 2035.¹¹ The enrollment of middle and elementary schools is expected to increase fairly significantly while high school enrollment is expected to

¹⁰ California Department of Education. DataQuest. Website: <https://dq.cde.ca.gov/dataquest/dataquest.asp>. Accessed October 29.

¹¹ Santa Rosa General Plan 2035. 2009. Educational Facilities. Website: <http://www.srcity.org/DocumentCenter/Home/View/3095>.

increase moderately. As a result of this projected demand, the City has identified sites for potential new middle and elementary schools that could alleviate overcrowding.

Project Site

No school exists on the project site. In addition, no school-age children reside on the project site. The project site is located within the Rincon Valley Unified School District (grades K–8), which is one of eight partner elementary districts, and the Santa Rosa City Schools District (grades 1–12). According to the Elementary Boundaries and School Site Locations map provided in the Demographic Report, elementary school-age residents located in the project site would attend Austin Creek Elementary. According to the Santa Rosa City Schools “MY School Locator” tool, the students on the project site would attend Rincon Valley Middle School and Maria Carrillo High School.

Libraries

City of Santa Rosa and Project Site

The Sonoma County Library operates 14 branches throughout Sonoma County, including three in the Santa Rosa area. No library exists on the project site. The nearest library branch is the Rincon Valley Library located approximately 3.17 miles northwest of the project site. Table 3.12-4 summarizes the library branches located in the City of Santa Rosa, the distance of each library branch from the project site, the hours they are open, and the services they offer.

Table 3.12-4: Santa Rosa Library Information

Library Branch and Location	Distance from Project Site (approx.)	Hours of Operation	Services and Events
Rincon Valley Library 6959 Montecito Boulevard Santa Rosa	3.17 miles	Monday to Saturday Closed Sunday 10:00 a.m.–6:00 p.m.	The Rincon Valley Library offers an Adult Literacy Program, other adult and children’s programs, and wireless internet access and public access computers.
Santa Rosa Central Library 211 East Street, Santa Rosa	5.64 miles	Tuesday through Saturday 10:00 a.m.–6:00 p.m. Monday 10:00 a.m.–9:00 p.m. Sunday 2:00 p.m.–6:00 p.m.	The Central Library is the largest Sonoma County Library and serves as the reference library system. A Local History and Genealogy Annex is located behind the library. The library also offers an Adult Literacy Program, other adult and children’s programs, and wireless internet access and public access computers.
Northwest Santa Rosa Library 150 Coddington Center Santa Rosa	9 miles	Monday and Wednesday 10:00 a.m.–9:00 p.m. Tuesday, Thursday through Saturday 10:00 a.m.–6:00 p.m. Closed Sunday	The Rincon Valley Library offers an Adult Literacy Program, other adult and children’s programs, and wireless internet access and public access computers.
Source: Sonoma County Library 2017.			

3.12.3 - Regulatory Framework

Federal

No federal plans, policies, regulations, or laws related to public services are applicable to the project.

State

California Fire Code and California Building Code

The International Fire Code and the International Building Code established by the International Code Council (ICC) and amended by the State of California prescribe performance characteristics and materials to be used to achieve acceptable levels of fire protection.

California Health and Safety Code

California Code—Health and Safety Sections 13100–13135 establish the following policies related to fire protection:

- **Section 13100.1:** The functions of the office of the State Fire Marshall, including CAL FIRE, shall be to foster, promote and develop strategies to protect life and property against fire and panic.
- **Section 13104.6:** The Fire Marshall has the authority to require fire hazards to be removed in accordance with the law relating to removal or public nuisances on tax deeded property.

California Senate Bill 50

California Senate Bill (SB) 50 (funded by Proposition 1A, approved in 1998) limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development, and provides instead for a standardized developer fee. SB 50 generally provides for a 50/50 state and local school facilities funding match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether state funding is available, whether the school district is eligible for State funding, and whether the school district meets certain additional criteria involving bonding capacity, year-round school, and the percentage of moveable classrooms in use.

California Government Code, Section 65995(b) and Education Code, Section 17620

SB 50 amended Section 65995 of the California Government Code, which contains limitations on Section 17620 of the Education Code, the statute that authorizes school districts to assess development fees within school district boundaries. Section 65995(b)(3) of the Government Code requires the maximum square footage assessment for development to be increased every 2 years, according to inflation adjustments. On January 24, 2018, the State approved increasing the allowable amount of statutory school facilities fees (Level I School Fees) from \$3.48 to \$3.79 per square foot of assessable space for residential development of 500 square feet or more, and from \$0.51 to \$0.61 per square foot of chargeable covered and enclosed space for commercial/industrial development. School districts may levy higher fees if they apply to the State and meet certain conditions.

Local

City of Santa Rosa General Plan 2035

Police and Fire

- **Goal PSF-E:** Provide fire and police services that ensure the safety of the community.
- **Policy PSF-E-1:** Provide for citizen safety through expedient response to emergency calls.
 1. The Fire Department shall achieve 90 percent performance of arrival of the first fire company at an emergency within 5 minutes of notification by the dispatch center.
 2. The Fire Department shall achieve 90 percent performance of arrival of all units on first alarm fire suppression incidents within 9 minutes of notification by the dispatch center.
- **Policy PSF-E-4:** Require implementation of fire protection measures, such as non-combustible roofing materials and fire sprinklers in areas of high fire hazard.

Educational Facilities

- **Goal PSF-C:** Provide superior educational opportunities for children and all members of the community.
- **PSF-C-1:** Assist the various school districts in developing school sites and facilities to serve all neighborhoods in the city, and to respond to the educational needs of various sectors of the population.

Library Facilities

- **Goal PSF-D:** Provide library facilities necessary to meet the needs of the community.
- **Policy PSF-D-1:** Provide a wide range of library services through a strong central facility and local branches needed to serve a growing and varied population.
- **Policy PSF-D-2:** Develop additional library facilities and assist the library administration in its attempts to secure state and federal funds for facilities and services.
- **PSF-D-4:** Explore new ways in which the city can support the goal of expanded facilities and services.

City Code Section 4-56—Special Tax District 2006-1

In 2008, the City prepared a Special Tax District-Wide Special Tax Summary Gap Analysis Estimate, finding that the cost to the City's General Fund of providing services to newly constructed dwelling units annually exceed, by an amount of \$430 per dwelling unit, the property tax and other revenues received by the City's General Fund from each such residential development. Special Tax District 2006-1 will pay for, in whole or in part, the following services as defined in Section 4-56.110 (C) of the City of Santa Rosa Special Tax Financing Code, as amended, and the Mello-Roos Community Facilities Act of 1982, including all related administrative costs, related reserves for replacement of facilities, improvements, vehicles, equipment, and expenses:

- Police protection services
- Fire protection and suppression services

- Paramedic services
- Services related to streets and street lighting
- Services related to landscaping, parks (including neighborhood parks) and open space
- Services related to storm drains and flood control facilities

3.12.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G, to determine whether impacts related to public services are significant environmental effects, the following question is analyzed and evaluated. Would the project:

Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

- a) Fire protection
- b) Police protection
- c) Schools
- d) Parks (Addressed in Section 3.13, Recreation)
- e) Other public facilities

Approach to Analysis

Impacts on fire and police services were determined by evaluating the project's effect on existing fire and police station response times, and determining whether this impact would trigger the need for new or physically altered government facilities, which could then have significant environmental impacts. Projected population provided by the Santa Rosa General Plan 2035 was also reviewed. In addition, fire and police (emergency) access at the project site was evaluated. Impacts on schools were determined by evaluating the project's effect on existing schools' enrollment, and determining whether this impact would trigger the need for new or physically altered government facilities, which could then have significant environmental impacts. Projected population and school enrollment data provided by the Santa Rosa General Plan 2035, Rincon Valley Union Elementary School District Demographic Study 2016/2017, and the Department of Education were also reviewed. Furthermore, impacts to police, fire, schools, and library facilities were also based on estimates from the Santa Rosa General Plan 2035 Draft EIR and information received in response to request letters sent to each of these service providers for their input related to possible project impacts.

Impact Evaluation

Need for New or Altered Fire Protection Facilities

Impact PUB-1:	The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection.
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The project would result in significant environmental impacts if new or physically altered fire protection facilities would need to be built to maintain an adequate provision of fire protection services.

The development of a continuing care retirement community on the project site would bring new residents, visitors, and employees to the area and would be expected to result in an increase in calls for fire protection and emergency medical services. Particularly in light of the wildfires that have occurred recently throughout Northern California, including the 2020 Glass Fire that destroyed the three single-family residences on-site, new projects in the City of Santa Rosa need to be evaluated for future risk from wildfires. Additional discussion of wildfire risk is provided in Section 3.7, Hazards and Hazardous Materials, and Section 3.16, Wildfire.

Emergency access points to the project site would be provided from Melita Road, Sonoma Highway, and Channel Drive (an emergency only access point). These access points would be constructed as part of the project in adherence to applicable Fire Code standards and requirements, and emergency vehicles would not be impaired in terms of accessing the project site as discussed under Impact TRANS-6, Emergency Access. In addition, the project would be consistent with the buildout projections of Santa Rosa General Plan 2035, and, as such, increased population on the project site is accounted for in the City's long-range planning efforts.

Furthermore, as previously noted under City Code Section 4-56—Special Tax District 2006-1, the City of Santa Rosa has determined that newly constructed dwelling units annually exceed, by an amount of \$430 per dwelling unit, the cost to the City's General Fund of providing public services to newly constructed dwelling units. Such services include, but are not limited to, expenses related to fire protection and suppressions services, as well as paramedic services. Pursuant to Mitigation Measure (MM) PUB-1, the project will be required to annex into City Code Section 4-56—Special Tax District 2006-1 and pay this special tax in order to address potential impacts to fire emergency response services in the area.

However, while the Santa Rosa General Plan 2035 EIR identified the fire protection services impact as less than significant, the SRFD is not currently meeting the established fire response time standard.^{12,13} Furthermore, as indicated by the SRFD, a development of this size, scope, and occupancy classification would be expected to result in an increase of service demand that “may affect the entire Santa Rosa response matrix.”¹⁴ While the SRFD's long-range plan includes an additional fire station near the project site (in the vicinity of Los Alamos Road and Sonoma Highway), the SRFD indicated that an increase in staffing and/or response units from the proposed or existing stations may be required with a development of this magnitude.

Therefore, while the project may not immediately trigger the need for new fire facilities, as one is already included in the SRFD's 2016 Standards of Coverage and Deployment Plan, it would require, as indicated by the SFRD, additional staffing and/or response units. The project would be required to pay compulsory development fees and taxes that help fund these additional needs.

¹² Anthony Gossner, Fire Chief, Santa Rosa Fire Department (SRFD). Personal communication (email). August 21, 2017.

¹³ Anthony Gossner, Fire Chief, Santa Rosa Fire Department (SRFD). Personal communication (email). December 3, 2019

¹⁴ *Ibid.*

In order to help reduce the project's impact to fire protection and emergency medical services, SRFD suggested including automatic external defibrillators (AEDs) at the project site and training of on-site employees as employee lift teams to assist project site occupants needing non-emergency assistance. These suggestions are included as MM PUB-2. The SRFD also suggested that the project participate in the Sonoma County Medical Facility Scene Call Program (MEDF Program). In order to participate in the program, the applicant would need to submit the "Medical Facility Scene Call-MEDF Program" form as also required by MM PUB-2. This form would be reviewed by local fire and emergency responder agencies, Coastal Valleys Emergency Medical Services Agency and Redwood Empire Dispatch Communications Authority, before being approved. Approval would satisfy the SRFD's suggestion and help reduce project impacts to fire protection and emergency services. Therefore, with the compulsory payment of development fees, adherence to the City of Santa Rosa Special Tax Financing Code, implementation of MM PUB-2, provision of three emergency access points at the project site, and adherence to the applicable provisions of the most recent State and City fire codes, impacts related to need for new or altered fire protection and emergency medical facilities would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

- MM PUB-1** Prior to issuance of a grading permit, the applicant shall complete annexation of all newly created parcels and multi-family residential development into the City's existing Special Tax District Number 2006-1.
- MM PUB-2** Prior to issuance of occupancy permits, the applicant shall install automatic external defibrillators within the proposed development and submit and receive an approved MEDF Program form. In addition, the applicant shall require that lift team training be provided to all employees working on-site as part of their first-week employment orientation.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Need for New or Altered Police Protection Facilities

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- Impact PUB-2:** The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.
-

The project would result in significant environmental impacts if new or physically altered police facilities would need to be built to maintain an adequate provision of police services.

The development of a continuing care retirement community on the project site would bring new residents, visitors, and employees to the area and would be expected to result in an increase in calls for police protection services. Emergency access points would be provided from one gated entrance

on Melita Road and the main entrance from Sonoma Highway, as well as an emergency only access point on Channel Drive. The Santa Rosa Police Department does not currently have response time standards. As noted above, the project would be expected to result in an increase of police calls compared with the existing conditions; however, development of the project site was anticipated in General Plan 2035. The Santa Rosa General Plan 2035 EIR evaluated potential impacts to police protection services that could result from buildout of General Plan 2035, but did not find significant impacts to police protection due to anticipated development. Furthermore, the project would be required to comply with City of Santa Rosa Special Tax Financing Code provisions, as a result of the imposition of a standard condition of approval and would, therefore, be required to make a fair-share contribution to reserve funds to help fund necessary public facilities and services, including police protection services. As discussed in Section 3.9, Land Use, the project is consistent with existing land use populations envisioned in the General Plan and, therefore, would not result in new or greater impacts beyond those previously identified in the Santa Rosa General Plan 2035 EIR. As such, need for new or altered police protection facilities impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Need for New or Altered School Facilities

Impact PUB-3:	The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools.
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The project would result in significant environmental impacts if new or physically altered school facilities would need to be built to maintain an adequate provision of schools.

In general, the residents of the proposed community care and retirement center at the project site would mostly be retired seniors with no school-age children residing with them on-site. As a result, the project would generate little demand for K–12 education. The residents of the 12 on-site employee-housing units could have families with school-age children that would create additional demand for school facilities; however, the number of students in the 12 employees housing units would be very small. For example, using an expected student generation yield rate of 0.242 student per household provided by the Rincon Valley Union Schools District Superintendent Dr. Tony Roehrick, the project would generate three elementary school students and a comparable number of high school students. Compared with the overall student population of the Rincon Valley Union and Santa Rosa City Schools District, the number of students generated would be small and not trigger a need for new schools.

Pursuant to Government Code Section 65995, payment of adopted development fees is considered “full and complete mitigation” for impacts to school facilities, and local governments are prohibited from assessing additional fees or exactions for school impacts. Accordingly, the applicant would be required to pay any currently applicable fees at the time building permits are sought. Therefore, the project would not be required to construct or alter school facilities. Thus, the need for new or altered school facilities impact would be less than significant, and no mitigation is required.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Need for New or Altered Library Facilities

Impact PUB-4:	The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for other public facilities.
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The project would result in a significant impact if it would require the construction or expansion of other government facilities such as libraries in order to maintain acceptable service standards.

In 2016, Sonoma County Library prepared a Facilities Master Plan to guide facilities planning and improvements for the next 10 years. The Facilities Master Plan classified Rincon Valley Library, the closest library branch to the project site, as in good condition and a low priority for an update.

The project would result in approximately 975 new residents on the project site, and this increase in population would generate an increased need for library services. However, 975 new residents represent a small proportion of the total population growth expected in Santa Rosa and Sonoma County through 2035. In addition, Sonoma County Library has indicated that development of the project would not trigger the need for new or expanded facilities over and above those identified in the 2016 Facilities Master Plan.¹⁵ As such, the need for new or altered library facilities impact would be less than significant, and no mitigation is required.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

¹⁵ Jennifer Duran, Branch Manager, Rincon Valley Library. Personal communication (email). August 14, 2017.

Level of Significance After Mitigation

Less than significant impact.

3.12.5 - Cumulative Impacts

The geographic scope of the cumulative public services analysis is the service area of each of the providers serving the project. Because of differences in the nature of the public service topical areas, they are discussed separately.

Fire Protection Facilities

The geographic scope of the cumulative fire protection and emergency medical services analysis is the SRFD's service area, which consists of the City of Santa Rosa and portions of Sonoma County adjacent to Trione-Annadel State Park, and the portion of the Sonoma County Fire District serving the Kenwood area.

The project proposes to develop approximately 676 community care units and associated infrastructure, improvements and amenities on a mostly vacant site near Trione-Annadel State Park. The project is located approximately 0.5-mile from City Fire Department Station No. 7 and 2 miles from Station No. 6. The General Plan 2035 outlines the relocation of two fire stations and development of one new station to improve service response times. In addition, the project site is located next to Sonoma Highway and Melita Road, which would allow the project to be served by two points of vehicular access as well as an emergency only access point on Channel Drive. As such, the project would not create a need for new or expanded fire protection facilities and would not result in a physical impact on the environment. Additionally, the project would comply with all applicable requirements of the adopted California Fire Code, as would other cumulative projects listed in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, that are in the City and would be accessible to fire apparatus. Development projects in the areas potentially affected would be reviewed for impacts on fire protection services. Therefore, with the provision of adequate emergency access points for all cumulative projects, adherence to the City's Special Tax Financing Code and long-range plan, and adherence to the applicable provisions of the most recent State and City fire codes, cumulative impacts related to fire protection facilities would be less than significant.

It is anticipated that the addition of the project's roughly 975 residents, some of whom would be cared for full-time, would result in a greater number of emergency calls. Demand for emergency medical services, along with fire protection services, is highly dependent on a number of factors that vary substantially by project (hours of operation, fire prevention measures, occupancy by sensitive populations, etc.). It is unlikely that there would be substantial overlap in demand between cumulative projects in Table 3-1, as well as other relevant cumulative projects as required by CEQA, and the project that would result in a cumulatively significant impact such that new facilities are necessary. Moreover, as standard conditions of approval, the project would be required to participate in the MEDF Program and to annex into Special Tax District 2006-1. Therefore, the project, in conjunction with other future projects, would not have a cumulatively significant impact related to emergency medical facilities.

Police Protection Facilities

The geographic scope of the cumulative police protection analysis is the service area of the Santa Rosa Police Department, which serves areas within the Santa Rosa city limits, and the Sonoma County Sheriff's Office, which serves the unincorporated areas outside Santa Rosa.

The project would result in an on-site residential population of approximately 975 persons. While this population likely would lead to an increase in calls to the Santa Rosa Police Department, the population represents a very small percentage of the total City population. As such, the project would not create a need for new or expanded law enforcement facilities and would not result in a physical impact on the environment. Furthermore, a gated senior residential community is not anticipated to generate a high volume of calls for law enforcement services as compared to other land uses such as commercial retail, etc. Other cumulative projects within the service area of the Santa Rosa Police Department, and the County Sheriff's Office would be reviewed for impacts on law enforcement services and would be required to address any potential impacts with mitigation, including payment of Community Facilities District (CFD) special taxes, evaluating project design to enhance safety features (and thus decrease demand), etc. Because demand for law enforcement services is highly dependent on a number of factors that vary substantially by project (clientele, hours of operation, crime prevention measures, etc.), it is unlikely that there would be substantial overlap in demand that would result in a cumulatively significant impact such that new facilities are necessary. Therefore, the project, in conjunction with other cumulative projects, would not have a cumulatively significant impact related to law enforcement services.

School Facilities

The geographic scope of the cumulative school services analysis is the service area of the Rincon Valley Unified School District and Santa Rosa City Schools District. Most of the project's residential units would be occupied by retired and elderly residents, who are unlikely to have school-age children at home. There are planned a small number of residential units for employees, which may be occupied by families with school-age children. However, it is expected that most of the employees with families would already live and work in the area; therefore, their children would already be enrolled in schools. Furthermore, the small number of new students resulting from the 12 employee housing units would not trigger a need for new school facilities. Other cumulative projects within the service area of the School District would be reviewed for impacts on school services and would be required to address any potential impacts with mitigation (i.e., payment of SB 50 fees).

To help offset the construction or expansion of facilities, the School District collects mandatory school facility fees on new residential and commercial development projects in accordance with SB 50 and related state laws. Under State law, this is the exclusive means of mitigating impacts to school facilities due to increased enrollment. As part of the project entitlement process, the project applicant would be responsible for paying its fair share of these school facility fees. Other cumulative projects in the District would also be required to pay applicable school facility fees. Given this and the anticipated incremental contribution to the School District student population, the project, in conjunction with other cumulative projects, would not have a cumulatively significant impact related to school services.

Library Facilities

The geographic scope of the cumulative other public facilities analysis is the service area of the Sonoma County Library within proximity of the project. Library services would be provided by three branches located in Santa Rosa.

The project's potential increase of approximately 975 residents would not be expected to require new or substantially altered library facilities. As such, the project would not create a need for new or expanded library facilities and would not result in a physical impact on the environment. Other projects in Chapter 3, Environmental Impact Analysis, Table 3-1, mainly the residential projects, as well as other relevant cumulative projects as required by CEQA, may also result in the increase in library use, but would have similar impacts on library services. As such, given the existing library facilities in place, the project, in conjunction with other cumulative projects, would not have a cumulative significant impact related to library services.

Overall

Overall, cumulative public services impacts would be less than significant with regard to fire protection, police protection, school, and library services and facilities.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

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3.13 - Recreation

3.13.1 - Introduction

This section describes existing parks and recreational facilities in the region and the project site vicinity, as well as the relevant regulatory framework. This section also evaluates the potential impacts related to parks and recreational facilities that could result from the implementation of the project. During the Environmental Impact Report (EIR) scoping period, the following comments were received related to recreation:

- potential effects on Trione-Annadel State Park, including existing wildlife and riparian habitat, and the recreational experience

This section includes discussion of park dedication pursuant to City Code Chapter 19-70. While this analysis does not result in any additional mitigation measures, it helps to inform the City's conditions of approval for the project.

3.13.2 - Environmental Setting

Existing Parks and Recreational Facilities

Sonoma County Region

Trione-Annadel State Park

Trione-Annadel State Park is located immediately south of the project site across Channel Drive. The 5,092-acre park offers hiking, picnicking, horseback riding, mountain biking, trail riding, and other recreational opportunities. It is also popular for wildflower viewing during the spring, and fishing as well as recreational swimming.¹ Lake Ilsanjo covers more than 25 acres and provides year-round recreational activities, including fishing for black bass and bluegill.

Spring Lake Regional Park

Adjacent to and northwest of the Trione-Annadel State Park is the Sonoma County Spring Lake Regional Park. The park is located approximately 1.11 miles west of the project site. This 320-acre park features trails for hiking and bicycling, a swimming lagoon, lake for fishing and boating, a campground, and picnic areas.² Spring Lake Regional Park has 10 miles of trails and a 2.3-mile-long paved loop around the Lake that offers access to campsites and picnic areas. The Lake is open all year for boating and fishing activities.

City of Santa Rosa

The Santa Rosa Recreation and Parks Department operates and maintains 62 parks totaling approximately 531 acres, 170 acres of undeveloped parkland, and 163 acres of proposed parkland as shown in Exhibit 3.13-1.³ The closest city park to the project site is Skyhawk Park, located approximately 4,669 feet (0.88-mile) to the northwest.

¹ California Department of Parks and Recreation. 2017. Trione-Annadel State Park. Website: http://www.parks.ca.gov/?page_id=480. Accessed April 5, 2017.

² Sonoma County. 2017. Spring Lake Regional Park. Website: http://parks.sonomacounty.ca.gov/Get_Outdoors/Parks/Spring_Lake_Regional_Park.aspx. Accessed April 10, 2017.

³ City of Santa Rosa. 2009. Draft Environmental Impact Report Santa Rosa 2035. Website: <http://ci.santa-rosa.ca.us/392/General->

Table 3.13-1 lists parks, recreational centers and other public facilities in the City and the County of Sonoma within 5 miles of the project site.

Table 3.13-1: Santa Rosa Community/Recreational Facilities within 5 Miles of Project Site

Community/Recreational Facilities	Distance from Project Site
Artstart Gallery	4.72 miles southwest
Bennett Valley Golf Course	2.60 miles southwest
Luther Burbank Home	4.70 miles west
Church of One Tree Museum	4.83 miles west
Doyle Park Clubhouse	3.86 miles west
Franklin Park Clubhouse	4.60 miles west
Santa Rosa Memorial Park	4.30 miles west
Prince Memorial Greenway	4.80 miles west
Ridgeway Swim Center	5. miles west
Santa Rosa Rural Cemetery	4.15 miles west
Bennet Valley Senior Center	4.74 miles southwest
Trione-Annadel State Park	0.15-mile southwest
Hood Mountain Regional Park	3 miles east
Parktrail Trail	1.60 miles southwest
Shaw Park	4.85 miles southeast
Doyle Community Park	3.75 miles west
Franklin Community Park	4.60 miles west
Galvin Community Party	3 miles southwest
Howarth Memorial Park	2.25 miles west
Rincon Valley Community Park	2.75 miles northwest
Skyhawk Community Park	1.03 miles northwest
Brush Creek Park	2.95 miles northwest
Colgan Creek Park	4.87 miles southwest
Dauenhauer Park	4 miles southwest
Eastside Park	3.75 miles southwest
Flat Rock Park	2.73 miles west
Frances Nielsen Ranch Park	4.87 miles northwest
Fremont Park	4.45 miles west
Hidden Valley Park	4.25 miles northwest

Plan. Accessed April 5, 2017.

Community/Recreational Facilities	Distance from Project Site
Humboldt Park	4.70 miles west
Juilliard Park	4.81 miles west
Martin Luther King Jr. Park	4.50 miles southwest
Matanzas Park	2.67 miles southwest
Mesquite Park	2.96 miles southwest
North Park	4.40 miles west
Oaklake Green Park	2 miles northwest
Parker Hill Open Space	4.75 miles northwest
Peter Springs Park	2.33 miles west
Prince Gateway Park	4.75 miles southwest
Rae Park	4.55 miles southwest
Rincon Ridge Park	4.30 miles northwest
Rinconada Park	2.72 miles northwest
Sonoma Ave Park	4.61 miles west
South Davis Park	5 miles southwest
Strawberry Park	2.23 miles southwest
Tanglewood Park	2.12 miles northwest
Trailhead Park	2.32 miles northwest
Vietnam Veterans Memorial Trail	1.75 miles southwest
Source: City of Santa Rosa Recreation and Parks Department 2017.	

In addition to neighborhood and community parks, Santa Rosa has two community centers (the Steele Lane Community Center and the Finley Community Center), two aquatic facilities (the Ridgeway Swim Center and the Finley Swim Center), and the Bennett Valley Golf Course—all of which offer a wide variety of sports and recreation programs. Specifically, the Person Senior Wing at the Finley Recreation Complex (6.4 miles to the West) offers comprehensive programming such as dance and exercise classes for the 50 and over community. The City also owns two clubhouse facilities at Doyle Park and Franklin Park that are available for meetings and gatherings. Additionally, the City has several citywide parks (such as Howarth Park) and special-purpose parks and facilities that are enjoyed by residents throughout the City. Each year, more than 70,000 visitors tour the City-owned and -operated gardens of famous horticulturalist Luther Burbank. The nearest City-owned park to the project is the 18-acre Skyhawk neighborhood Park, located approximately 0.75-mile north.

The City of Santa Rosa maintains a park standard of 6 acres of parkland per 1,000 residents. The City Council determines the ratio of neighborhood and community parkland, school playgrounds, and open space that will satisfy this standard. Currently, this ratio separates the total 6 acres of parkland per 1,000 residents standard into 3.5 acres of parkland per 1,000 residents, 1.4 acres of school

recreational land, and 1.1 acres of public-serving open space. There are other parks within the City's boundaries that are not managed by the City, including the 320-acre Spring Lake County Park and the 5,092-acre Trione-Annadel State Park.

3.13.3 - Regulatory Framework

Federal

No federal plans, policies, regulations, or laws related to recreation are relevant to this analysis.

State

Quimby Act

The Quimby Act (California Government Code Section 66477) was established by the California Legislature in 1965 to preserve open space and parkland in rapidly urbanizing areas of the State. The Quimby Act allows cities and counties to establish requirements for new development to dedicate land for parks, pay an in-lieu fee, or provide a combination of the two.

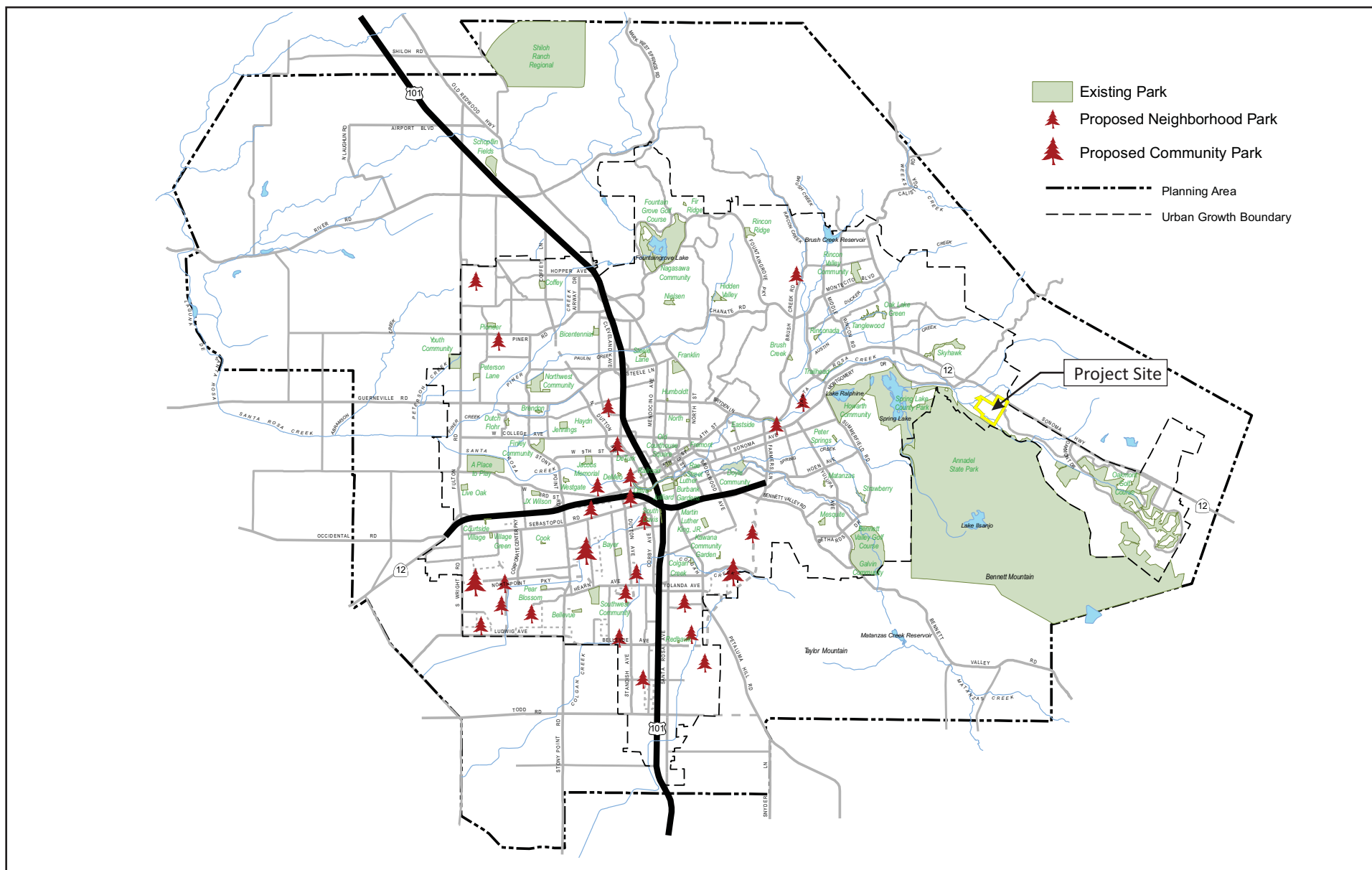
The Quimby Act provides two standards for the dedication of land for use as parkland. If the existing area of parkland in a community is greater than 3 acres per 1,000 residents, then the community may require dedication based on a standard of up to 5 acres per 1,000 persons residing in the subdivision based on the current ratio of parkland per 1,000 residents. If the existing amount of parkland in a community is less than 3 acres per 1,000 residents, then the community may require dedication based on a standard of only 3 acres per 1,000 persons residing in the subdivision. The Quimby Act requires a city or county to adopt standards for recreational facilities in its general plan if it is to adopt a parkland dedication or fee ordinance.

It should be noted that the Quimby Act applies only to the acquisition of new parkland; it does not apply to the physical development of new park facilities or associated operations and maintenance costs. Therefore, the Quimby Act effectively preserves open space needed to develop park and recreation facilities, but it does not ensure the development of the land with park and recreational facilities or the provision of park and recreation services to residents. In addition, the Quimby Act applies only to residential subdivisions. Quimby Act fees are collected by the local agency (park district, city, or county) in which the new residential subdivision development is located. Nonresidential projects could contribute to the demand for park and recreation facilities without providing land or funding for such facilities.

Local

City of Santa Rosa General Plan 2035

The City of Santa Rosa General Plan 2035 (General Plan 2035), adopted in November 2009, outlines policies, standards, and programs that together provide a comprehensive, long-term plan for physical development within the City. Individual development projects proposed within the City must demonstrate general consistency with the applicable goals and policies outlined within the General Plan 2035, which articulates and implements the City's long-term vision as it pertains to housing, transportation, historic preservation, open space and other areas.



Source: City of Santa Rosa

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Exhibit 3.13-1 City of Santa Rosa Parks

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- **PSF-A: Provide recreational facilities and parks for all sectors of the community.**
- **PSF-A-1:** Provide recreation and park facilities and services needed by various segments of the population—including specific age groups, persons with special physical requirements, and groups interested in particular activities—and make these facilities and services easily accessible and affordable to all users.
- **PSF-A-2:** Acquire and develop new park facilities to achieve a citywide standard of 6 acres of parkland per thousand residents:
 - 3.5 acres of city park land;
 - 1.4 acres of publicly accessible school recreational park land (defined as parkland that is open to the public during standard park hours when school is not in session);
 - 1.1 acres of public serving open space.
- **PSF-A-17:** Develop special purpose parks and facilities for each recreation and park planning area throughout the city, including but not limited to multigenerational recreational centers, aquatic centers, education and community service centers and other unique facilities, with priority given to areas experiencing high growth.
- **PSF-A-20:** Encourage multiple use of waterways, including:
 - Flood control;
 - Wildlife habitats;
 - Passive open space uses;
 - Nature study;
 - Pedestrian and bicycle circulation; and
 - Other compatible outdoor uses.
- **PSF-B: Ensure adequate funding for recreation and parks improvements and maintenance.**
- **PSF-B-1:** Sustainable resources and funding mechanisms are available to meet approved maintenance management plans and acceptable levels of maintenance services.
- **PSF-B-2:** Annually evaluate the in-lieu fees allowed under the Quimby Act for park acquisition to ensure sufficient funds to acquire parks consistent with General Plan acreage totals.
- **PSF-B-3:** Annually evaluate Park Impact Fees to ensure sufficient funds for park acquisition and development from proposals that do not meet Quimby guidelines.

Santa Rosa Recreation and Parks Business and Strategic Action Plan

In 2008, the City of Santa Rosa developed the Santa Rosa Recreation and Parks Business and Strategic Action Plan to identify and assess current and anticipated parks and recreation needs and priorities; provide practical and strategic direction for meeting these needs; and prepare a financial plan for the financing and funding of parks and facilities. This Plan outlines several goals and objectives that are relevant to the proposed General Plan 2035, as follows:

Goal 1: Park Development Standards

Strategy 1.2: Pursuant to the General Plan, apply the standard of 6 acres of parkland per 1,000 residents to all development projects and ensure the following allocation is met:

- 3.5 acres of parkland designated as city parks;
- 1.4 acres of parkland as accessible school recreational land; and
- 1.1 acres of public serving open space.

Strategy 1.3: Redefine access to park and public spaces for all residents to meet the following:

- within 0.25-mile to public plazas and gathering spaces;
- within 0.5-mile to neighborhood parks; and
- within 1 mile to community parks.

Goal 5: Connectivity

Strategy 5.4: Encourage new development to include a system of internal trails and pathways within developments and identify opportunities to connect with established trails and pathways.

Santa Rosa Citywide Creek Master Plan Recreation Goals

- **Objective RT-1:** Develop multi-use paths where appropriate.
- **Objective RT-2:** Provide public, neighborhood, and private access to creek side trails as appropriate.
- **Policy RT-2-1:** Provide access to the creek trail system for people and authorized vehicles, and from neighborhoods.
- **Objective RT-4:** Accommodate connections to regional trail systems that enhance or support the creek trail system network.
- **Policy RT-4-1:** Cooperate with various public and private entities to create, where appropriate, new public access trails along creeks to parks and open spaces within the Urban Growth Boundary, as well as connections to regional trail systems.

City of Santa Rosa City Code

Santa Rosa City Code Chapter 19-70, Park and Recreation Land and Fees, requires that 6 acres of property for each 1,000 persons residing in Santa Rosa be devoted to local parks and recreational purposes. This requirement can be satisfied by a combination of parkland and park development dedications, open space, and school recreational land. The acreage of each park type per 1,000 residents is determined by City Council resolution.

As indicated in Santa Rosa City Code Chapter 19-70.020, as a condition of approval of a discretionary action granting approval for the development of one or more units, land must be dedicated for neighborhood or community parks or recreational purposes. As indicated in Santa Rosa City Code Chapter 19-70.090, a fee shall be paid to fund park land acquisition and development of park and recreation facilities by the developer of each new dwelling unit irrespective of whether the developer is required to dedicate land as set forth in Section 19-70.040, and/or whether the developer receives a credit for dedication of land pursuant to Section 19-70.050.

3.13.4 - Impacts and Mitigation Measures

Significance Criteria

According to California Environmental Quality Act (CEQA) Guidelines Appendix G, to determine whether impacts related to recreation are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?
- c) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, or result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impact, in order to maintain acceptable service ratios or other performance objectives related to parks or recreational facilities?

Approach to Analysis

Impacts related to parks and recreational facilities were determined by evaluating the project's effect on existing park and recreational facility usage levels, and whether any potential increase in usage would result in the substantial physical deterioration of the facility (or acceleration of same). In addition, the analysis assesses whether project-related population increases could affect the achievement of the General Plan 2035 parkland standard, and thus trigger the need to construct or expand facilities in a manner that would result in significant environmental impacts. Impacts related to project trails are based on the Trail Feasibility Study prepared for the project by Questa Engineering Corp. on February 13, 2020 (Appendix J). The Trail Feasibility Study was prepared to evaluate the options for including a regional trail connection into the Elnoka CCRC Project consistent with the: City of Santa General Plan, City of Santa Rosa Bicycle and Pedestrian Master Plan, Santa Rosa Citywide Creek Master Plan, Sonoma Valley Trail Feasibility Study, and Trione-Annadel State Park.

Impact Evaluation

Effects of Increased Use of Existing Parks and Recreational Facilities

Impact REC-1:	The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.
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The project would provide its residents with a swimming pool, sports and bocce courts, gardens, pet parks, and walking paths on-site. In addition, approximately 24 percent of the project site would be retained as natural open space and another approximately 34 percent of the project site would be landscaped area, providing residents with access to a total of approximately 58 percent of the project site (approximately 40 acres) of open and natural space, walkways, and paved trails. Additionally, a Class I multi-use path called the Sonoma Valley Trail is planned by Sonoma County to

generally parallel Sonoma Highway between Los Alamos Road and Agua Caliente Road. The approximately 13-mile-long trail would serve as a key bicycle linkage in a larger, cross-county network that would connect Sebastopol to Sonoma and beyond. Pursuant to City Code Chapter 19-70, the City may require dedication of project site land in order to accommodate a public trail connection between Sonoma Highway and Channel Drive.

The Trail Feasibility Study identified three potential trail options, Option 1A, Option 1B, and Option 2, in order to connect Sonoma Highway with Channel Drive and the adjacent park facilities. All trail options are discussed as follows and shown in Exhibit 3.13-12:

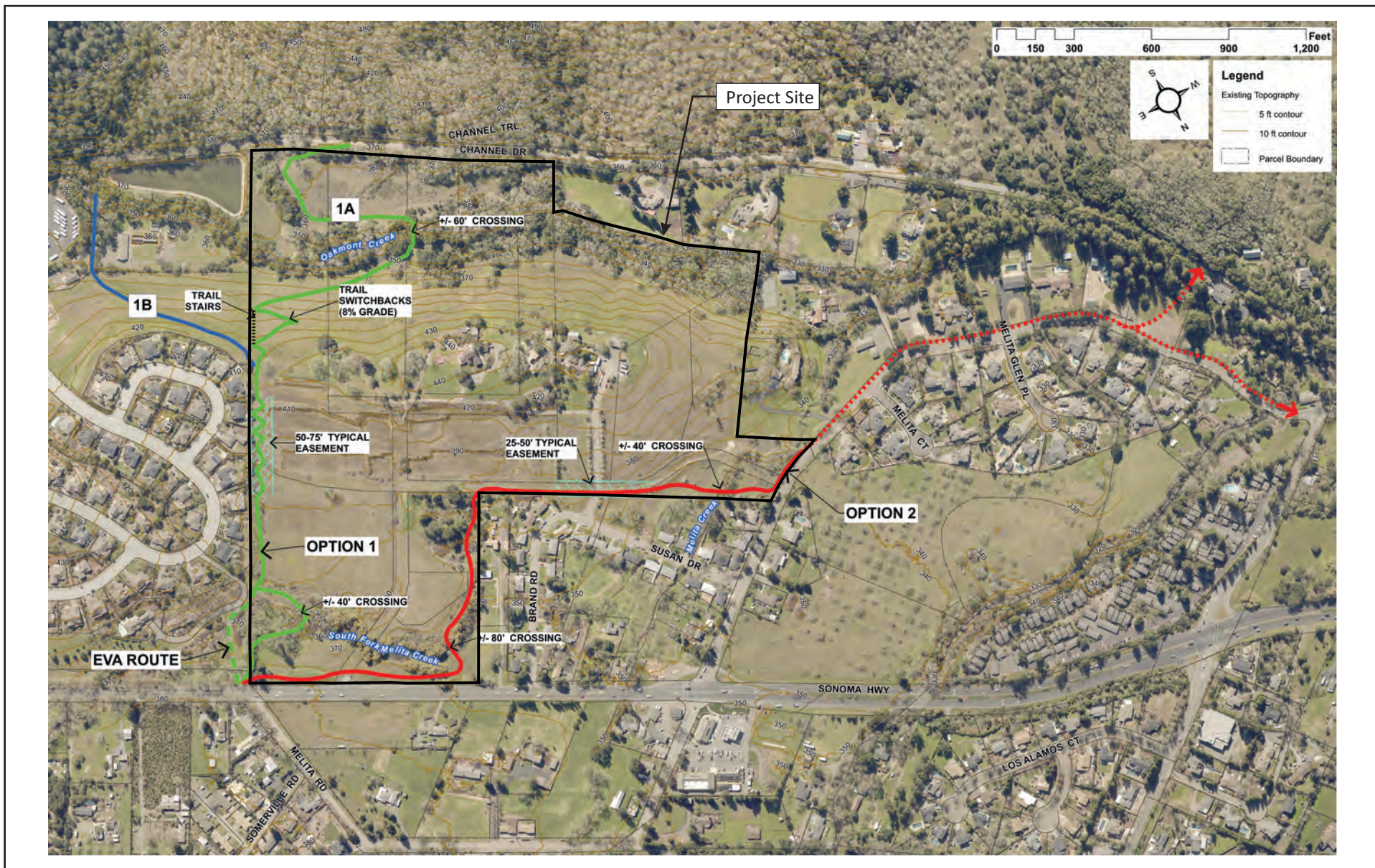
- Option 1A: This trail would start at the northeast corner of the project site and follow a path south along the project boundary until connecting to Channel Drive. The trail would be located within the creek setback area of Melita Creek, crossing with a separate bicycle/pedestrian bridge and continuing southeast along the perimeter of the proposed development. The trail would generally follow the proposed project sidewalk south of the site's east-west ridge and cross Oakmont Creek as part of, or near the proposed vehicle bridge. The trail would continue to follow the creek corridor south of the creek and connect to Channel Drive at the existing driveway. Stairs may be provided in some areas in addition to the accessible route.
- Option 1B: This trail would start at the same point at Sonoma Highway as Option 1A but would trend east at the base of the east-west ridge and cross lands owned by Oakmont Village Association to connect with the existing bridge at the Santa Rosa Water Treatment Plant. This bridge and approach would need to be upgraded or replaced to meet accessibility needs. An easement or agreement with Oakmont Village Association would be needed for this trail connection to be implemented.
- Option 2: This trail would start at the northwest corner of the site from the proposed sidewalk adjacent to Sonoma Highway. The trail would trend southwest and connect to Melita Road along the project boundary. This trail option would not create a Class I trail that connects Sonoma Highway with Channel Drive because a mid-block crossing would be needed to connect with the asphalt path continuing west on Melita Road, or future improvements would be needed along Melita and Montgomery Drive to provide a continuous trail to connect to the parks.

With the exception of Option 2, above, all proposed trails would be Class I shared use trails, which as defined by the General Plan, is a shared use path separate from a street that allows two-way travel by pedestrians and cyclists.

Based on the Trail Feasibility Study, Option 1A or Option 1B are the preferred trail options because they would provide a complete off-street connection from Sonoma Highway to Channel Drive and avoid routing pedestrians and cyclists onto Melita Road and Montgomery Drive, which do not have continuous sidewalks or bicycle lanes. In addition, both Option 1A and Option 1B would be consistent with City and County plans as well as the project objectives, whereas Option 2 would not. As a result, a Class I trail is feasible with project plan modifications and the proposed project could be conditioned to include such a trail to connect Sonoma Highway and Channel Drive.

Private on-site recreational and open space areas as well as landscaped areas fronting adjacent roadways would be privately maintained. New residents would also have the opportunity to use neighboring public parks, including Trione-Annadel State Park, Spring Lake Regional Park, and Skyhawk Park. Given this wide range of on-site and adjacent park amenities available to project-related residents, the recreational needs of the project's anticipated 975 new residents would not

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Source: Questa Engineering Corp.

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Exhibit 3.13-2
Trail Options

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result in substantial physical deterioration of existing neighborhood and regional parks or other recreational facilities. The private nature of the proposed development would, however, preclude any public access to onsite open space amenities and could interfere with existing City plans for public recreational access from Sonoma Highway to Channel Drive and Trione-Annadel State Park and Spring Lake.

In addition, continued implementation of General Plan 2035 policies and the provisions of the City Code would ensure that existing parks and recreational facilities are well-maintained and improved as needed. General Plan 2035 Goals PSF-A and PSF-B contain numerous policies oriented to provide recreational facilities and parks. Consistent with PSF-A-1, the project provides recreational and park facilities for senior residents and ensures accessibility to all users. Additionally, as previously discussed, the City may require the dedication of land to facilitate the community's need for connectivity between Sonoma Highway and Channel Drive in the form of a Class I trail. The project would be consistent with PSF-B-3, ensuring adequate funding for recreation and parks improvements and maintenance.

Pursuant to Chapter 19-70, the City may acquire park land or require payment of development fees to address the need for public bicycle and pedestrian trail access. In addition to meeting the park land dedication requirements of Chapter 19-70, the applicant would pay any applicable development fees prior to issuance of building permits. Therefore, impacts related to potential increased use of existing parks and recreational facilities would be less than significant, and no mitigation is required. While not mitigation is required, this analysis will be used to inform required conditions of approval.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Effects from Provision of Parks or Recreational Facilities

Impact REC-2:	The proposed project would not include park or recreational facilities or require the construction, physical alteration, or expansion of recreational facilities, which might have an adverse physical effect on the environment, in order to maintain acceptable service ratios.
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The project would result in a significant impact if it caused substantial adverse physical impacts associated with the provision of new or physically altered parks or recreational facilities, or if it resulted in an increase in the need for new or physically altered parks or recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

The project would include private recreational facilities such as a swimming pool, bocce and sports courts, gardens, pet parks, and walking paths on-site. In total, the project would provide project-related residents with approximately 3.2 acres of private recreation areas. In addition, approximately 24 percent of the project site would be retained as natural open space, and approximately 34 percent of the project site would be maintained as landscaped area for a total of approximately 40 acres of recreational and open space. As the project would be a private, gated community, the proposed recreation and open space areas would be for the sole use of the residents and their guests. The environmental impacts associated with implementation of these amenities is accounted for in the discussion of the various relevant environmental topic areas within this Draft EIR, which are explained in more detail as set forth herein.

General Plan Policy PSF-A-2 and the City Code establish a City standard of six acres of parkland per 1,000 residents. As discussed previously, the City Council determines what ratio of neighborhood and community parkland, school playgrounds, and open space will satisfy this 6-acre standard. Currently, this ratio is 3.5 acres of City parks per 1,000 residents, 1.4 acres of school recreational land, and 1.1 acres of public-serving open space. The General Plan 2035 EIR determined the City would have 864.15 acres of parks and recreational facilities with development of all undeveloped and proposed park facilities by 2035. Based on an expected population of 233,520 by 2035 at full buildout of the General Plan 2035, with 864.15 acres of parkland, the City of Santa Rosa will have 3.7 acres of City parks per 1,000 residents.^{4,5} At full occupancy, this project would result in approximately 975 additional residents to the city. In addition, this project would result in 3.2 acres of private recreation area and parkland designed for the specific use of the project's residents. As a result, with the addition of the project's residents and recreation areas, there would be 234,495 residents and a total of 867.35 acres in the City of Santa Rosa. The project would result in a City park land ratio of 3.7 acres per 1,000 residents ($[867.35/234,495] \times 1,000 = 3.7$).

Although this project would likely increase Santa Rosa's population, it would not necessarily reduce the acres of parkland per 1,000 residents below either the 3.5-acre ratio or the overall 6-acre standard. In addition, this project would provide private recreational facilities, landscaped areas, and nature paths for its residents that would minimize increased use at public parks and recreational facilities. The City may also require the applicant to dedicate park land pursuant to Chapter 19-70 of the City Code in addition to or as an alternative to paying park fees applicable at the time of building permit issuance. This would help to further ensure that additional park land is provided; address the issue of connectivity between Sonoma Highway and Channel Drive and address the need for public access from Sonoma Highway to Trione-Annadel State Park and Spring Lake. The project applicant would be required to pay any applicable park development fees in accordance with the formula provided under City Code Section 19-70.090 as applicable, subject to credits for public and private open space. Therefore, the project would not require construction or expansion of City recreational facilities and impacts would be less than significant, and no mitigation is required.

⁴ $(233,520 \text{ residents} / \text{per } 1,000 \text{ residents} = 233.52) (864.15 \text{ acres} / 233.52 = 3.7 \text{ acres per } 1,000 \text{ residents})$

⁵ ESA 2009. Santa Rosa General Plan 2035 EIR, March.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.13.5 - Cumulative Impacts

The geographic scope of the cumulative parks and recreation analysis consists of the local and regional parks in the project vicinity. These include parks and recreational facilities managed by the Santa Rosa Recreation and Parks Department, Spring Lake Regional Park managed by Sonoma County, and Trione-Annadel State Park.

The approximately 676 residential units proposed by the project would be expected to result in a population of roughly 975 persons, resulting in increased demand for park and recreational facilities. However, the City's park and recreational facilities are anticipated to be able to accommodate the increased demand, without triggering the need to construct or expand any park and recreational facilities. The City's population of 167,815 is served by 531 acres of neighborhood and community parks. Thus, the City of Santa Rosa currently provides 3.1 acres of parkland per 1,000 residents, which is less than the 3.5 acres per 1,000 standard established in the Santa Rosa General Plan 2035. The applicant would be required to dedicate park land and to pay any applicable park development fees in accordance with the formula provided under City Code Section 19-70.090 as applicable. Other projects listed in Table 3-1 that are within Santa Rosa in the project vicinity, as well as other relevant cumulative projects as required by CEQA, would similarly be required to provide parkland or pay applicable development fees, and otherwise mitigate any such impacts. Projects in Sonoma County in the project vicinity would also be required to pay park mitigation fees and comply with any applicable Quimby and non-Quimby requirements. Because of this, the cumulative projects would not result in the off-site construction of new or expanded existing park facilities and would not result in a significant cumulative impact on the environment.

Given the above information, the project, in conjunction with other existing, planned, and probable future projects, would have a less than significant cumulative impact related to need for new or altered recreation facilities.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

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3.14 - Transportation

3.14.1 - Introduction

This section describes existing conditions related to transportation and traffic in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to transportation that could result from implementation of the project. Information in this section is based on the Santa Rosa General Plan 2035 and the project-specific Traffic Impact Study prepared by W-Trans (included as Appendix I). The following comments were received during the Environmental Impact Report (EIR) scoping period related to transportation:

- Roadway access, multimodal planning, and Vehicle Miles Traveled (VMT) reduction measures
- Traffic impacts on Trione-Annadel State Park
- Congestion and roadway safety
- Scenic roadway impacts
- Emergency vehicle access

Because this document has been developed over the course of several years, this section includes analysis for both Level of Service (LOS) and VMT. LOS analysis is no longer required for the California Environmental Quality Act (CEQA) and is included in this section for informational purposes only as it will inform the project's conditions of approval to ensure consistency with the General Plan.

3.14.2 - Existing Conditions

Roadway Network

The following provides a description of the existing principal roadways within the study area and the City of Santa Rosa. The study area is the main roadways and intersections around the project site that would be most impacted by the project's traffic volumes. The traffic study area and roadways are depicted in Exhibit 3.14-1.

U.S. 101

U.S. Highway 101 (U.S. 101) is a freeway that provides regional access to Santa Rosa and Sonoma County from the south and north. Within Santa Rosa, U.S. 101 ranges from six lanes to eight lanes and an interchange with State Route 12 (known locally as the Sonoma Highway and referred to herein as the Sonoma Highway). U.S. 101 is located 6 miles west of the project site and project-related vehicles traveling to or from the freeway would use either the Sonoma Highway or 4th Street/College Avenue.

Sonoma Highway

Sonoma Highway runs east-west and has a posted speed limited of 45 miles per hour (mph) between Calistoga Road and St. Francis Road, 55 mph between St. Francis Road and Los Alamos Road, and 50 mph between Los Alamos Road and Oakmont Drive. Along the project frontage, Sonoma Highway carries an average daily volume of 24,800 vehicles. Sonoma Highway includes four lanes (two in each direction) plus turn pockets between Farmers Lane in Santa Rosa and the Melita Road (east)

signal near the project site. To the east of the Melita Road (east) signal, Sonoma Highway reduces to one through lane in each direction, including a two-way left-turn lane on the 0.3-mile segment to the east of the Melita Road signal.

Melita Road

Melita Road is a two-lane local street that passes through a combination of rural residential and suburban contexts. The street is identified as a scenic roadway in the General Plan 2035. Melita Road has three distinct sections: an eastern segment between Sonoma Highway and Montgomery Drive, a central segment that includes the secondary project access between Los Alamos Drive and Sonoma Highway, and an eastern “loop” segment that exists north of Sonoma Highway and the project site and connects at both ends to Sonoma Highway. Near the project site, the posted speed limit is 30 mph. Speed samples in this area indicate an average speed of 33 mph and an 85th percentile speed of 38 mph.

Project Site

There are no formal roadways on the project site. There are driveways connecting the sites of the three former single-family residences to Susan Road and Elnoka Lane adjacent to the project site.

Study Facilities

The following provides a description of the existing principal roadways within the study area. The study area is the main roadways and intersections around the project site that would be most impacted by the project’s traffic volumes. The traffic study area and roadways are depicted in Exhibit 3.14-1.

The study area for the project consists of 10 intersections and one roadway segment listed below. The study area was selected in consultation with City staff.

Intersections

1. Sonoma Highway/Calistoga Road
 - A signalized, four-legged intersection, with protected left-turn phasing on Sonoma Highway and split phasing on Calistoga Road. The southbound approach includes a right-turn overlap phase. Marked crosswalks are provided on the north, south, and east legs.
2. Sonoma Highway/Melita Road (West)
 - An unsignalized intersection with stop controls on the northbound approach. The north leg serves as a private driveway to the St. Francis shopping center. Sonoma Highway includes a raised median through the intersection, restricting traffic movements to and from the minor approaches to right turns.
3. Sonoma Highway/Mountain Hawk Drive
 - A signalized four-legged intersection with protected left-turn phasing on Sonoma Highway, and permitted phasing on Mountain Hawk Drive. Marked pedestrian crosswalks are provided across each leg.

4. Sonoma Highway/Los Alamos Road
 - A four-legged, signalized intersection with protected left-turn phasing on Sonoma Highway and permitted phasing on Los Alamos Road. The eastbound and westbound Sonoma Highway approaches have raised medians and channelized right-turn lanes. Crosswalks are provided on the north, south, and west legs.
5. Sonoma Highway/Melita Road (East)
 - A signalized four-legged intersection with protected left-turn phasing on Sonoma Highway and permitted phasing on Melita Road. Westbound Sonoma Highway widens to two through lanes on the west side of the intersection, and eastbound Sonoma Highway merges to a single through lane just upstream of the intersection. Crosswalks are provided on the north and east legs.
6. Sonoma Highway/Project Access
 - Currently an unsignalized dead end road with no stop controls.
7. Sonoma Highway/Oakmont Drive
 - A signalized four-legged intersection with protected left-turn phasing on Sonoma Highway and split phasing on Oakmont Drive. The north leg was recently constructed and serves as the driveway entrance to Annadel Estate Winery. Crosswalks are provided on the south and west intersection legs.
8. Melita Road/Montgomery Drive
 - An unsignalized, stop-controlled tee intersection. The southbound Melita Road approach is controlled by a stop sign and Montgomery Drive is free-flowing.
9. Melita Road/Los Alamos Road
 - An unsignalized intersection with stop controls on all three legs.
10. Melita Road/Project Access
 - A private, gated entrance with no stop controls or traffic signals.

Roadway Segment

11. Sonoma Highway Between Calistoga Road and Oakmont Drive
 - The main thoroughfare for the project site and consists of signalized and unsignalized intersections as described above.

Vehicle Collision History

Study Area

A collision history study of the study area was conducted to determine if there are any trends or patterns that may indicate a safety issue. Calculations of collision rates were based on records available from the California Highway Patrol as published in its Statewide Integrated Traffic Records System reports. The 5-year period evaluated includes January 1, 2012, through December 31, 2016.

As shown in Table 3.14-1, the calculated collision rates for the study intersection were compared with average rates for similar facilities Statewide, as indicated in 2013 Collision Data on California State Highways. The collision rates for the three intersections at Sonoma Highway/Mountain Hawk

Drive, Sonoma Highway/Los Alamos Road, and Sonoma Highway/Oakmont Drive were calculated to be slightly higher than the Statewide average.

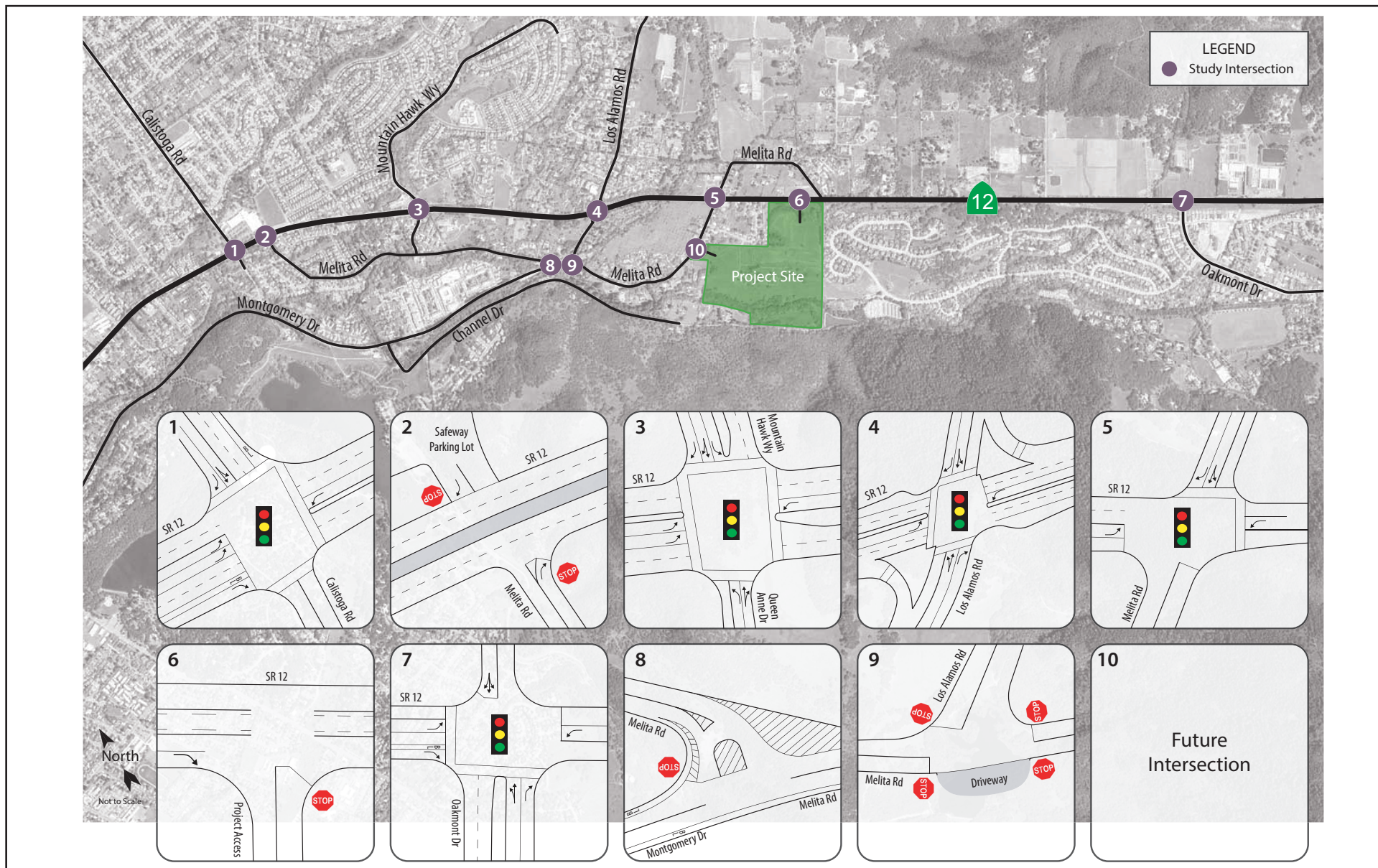
Table 3.14-1: Collision Rates at the Study Intersections

Study Intersection	Number of Collisions (2012–2016)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. Sonoma Highway/Calistoga Road	15	0.27	0.27
2. Sonoma Highway/Melita Road (west)	5	0.12	0.15
3. Sonoma Highway/Mountain Hawk Drive	11	0.28	0.27
4. Sonoma Highway/Los Alamos Road	14	0.34	0.27
5. Sonoma Highway/Melita Road (east)	6	0.14	0.27
6. Sonoma Highway/Project Access	0	0.00	—
7. Sonoma Highway/Oakmont Drive	14	0.35	0.27
8. Melita Road/Montgomery Drive	1	0.07	0.18
9. Melita Road/Los Alamos Road	2	0.16	0.18
10. Melita Road/Project Access	0	0.00	—
Note: c/mve = collisions per million vehicles entering Source: W-Trans 2019.			

As shown in Table 3.14-2, the collision rate for the segment of Sonoma Highway between Calistoga Road and Oakmont Drive is lower than the Statewide average for similar facilities.

Table 3.14-2: Collision Rates for the Study Segments

Study Roadway Segments	Number of Collisions (2012–2016)	Calculated Collision Rate (c/mvm)	Statewide Average Collision Rate (c/mvm)
1. Sonoma Highway between Calistoga Road and Oakmont Drive	47	0.31	1.45
Note: c/mvm = collisions per million vehicles miles Source: W-Trans 2019.			



Source: W-Trans, 2017

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Exhibit 3.14-1 Study Area and Lane Configurations

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Intersection Levels of Service

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

The study intersections were analyzed using methodologies published in the Highway Capacity Manual (HCM).¹ This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

The LOS for the intersections with side-street stop controls, or those that are unsignalized and have one or two approaches stop controlled, were analyzed using the “Two-Way Stop-Controlled” intersection capacity method from the HCM. This methodology determines an LOS for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

The study intersection at Melita Rosa/Los Alamos Road includes stop signs on all approaches and was analyzed using the “All-Way Stop-Controlled” Intersection methodology from the HCM. This methodology evaluates delay for each approach based on turning movements, opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole, and is then related to an LOS.

The study intersections that are currently controlled by a traffic signal, or may be in the future, were evaluated using the signalized methodology from the HCM. This methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. Signal timing sheets for the signalized intersections along Sonoma Highway were obtained from the California Department of Transportation (Caltrans) for use in the analysis.

The ranges of delay associated with the various levels of service are indicated in Table 3.14-3.

Table 3.14-3: Intersection Level of Service Criteria

LOS	Two-Way Stop-Controlled	All-Way Stop-Controlled	Signalized
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Upon stopping, drivers are immediately able to proceed.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 15 seconds. Drivers may wait for one or two vehicles to clear the intersection before proceeding from a stop.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.

¹ Highway Capacity Manual (HCM). Transportation Research Board, 2010.

LOS	Two-Way Stop-Controlled	All-Way Stop-Controlled	Signalized
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 15 to 25 seconds. Drivers will enter a queue of one or two vehicles on the same approach, and wait for vehicle to clear from one or more approaches prior to entering the intersection.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 25 to 35 seconds. Queues of more than two vehicles are encountered on one or more approaches.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 35 to 50 seconds. Longer queues are encountered on more than one approach to the intersection.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 50 seconds. Drivers enter long queues on all approaches.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.
Sources: Highway Capacity Manual (HCM). Transportation Research Board 2010; W-Trans, 2019.			

Existing Intersection Operations

The Existing Conditions scenario provides an evaluation of current operations based on existing traffic volumes during the weekday AM and PM peak periods. These periods capture traffic conditions during peak morning and evening commute hours, as well as the Saturday Midday peak period, which captures the highest hour of traffic occurring during the weekend Midday (which in the study area reflects the highest 1-hour volumes between 12:30 p.m. and 2:30 p.m.). This condition does not include project-generated traffic volumes. Volume data was collected in April 2017 while local schools were in session. Note that the volumes were obtained prior to the catastrophic Tubbs and Nuns fires in the fall of 2017, which resulted in a significant destruction of homes along the Sonoma Highway corridor. The applied 2017 volumes provide a more accurate representation of “typical” operation than volumes collected subsequent to the fires.

Under existing conditions, all 10 study intersections are operating acceptably. The existing traffic volumes are shown in Exhibit 3.14-2. A summary of the intersection LOS calculations is contained in Table 3.14-4, and copies of the LOS calculations are provided in Appendix I.

Table 3.14-4: Study Area Existing Peak-hour Intersection Levels of Service

Study Intersection Approach	AM Peak-hour		PM Peak-hour		Saturday Midday Peak-hour	
	Delay	LOS	Delay	LOS	Delay	LOS
1. Sonoma Highway/Calistoga Road	43.6	D	37.1	D	26.4	C
2. Sonoma Highway/Melita Road (west)	0.1	A	0.2	A	0.2	A
<i>Northbound (Melita Road) Approach</i>	<i>12.0</i>	<i>B</i>	<i>13.2</i>	<i>B</i>	<i>12.4</i>	<i>B</i>
3. Sonoma Highway/Mountain Hawk Drive	14.2	B	13.5	B	12.6	B
4. Sonoma Highway/Los Alamos Road	14.0	B	14.8	B	12.3	B
5. Sonoma Highway/Melita Road (east)	16.4	B	25.7	C	18.4	B
7. Sonoma Highway/Oakmont Drive	18.1	B	32.2	C	20.7	C
8. Melita Road/Montgomery Drive	1.5	A	1.0	A	0.5	A
<i>Southbound (Melita Road) Approach</i>	<i>11.2</i>	<i>B</i>	<i>11.0</i>	<i>B</i>	<i>12.5</i>	<i>B</i>
9. Melita Road/Los Alamos Road	9.9	A	11.2	B	10.3	B
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service Results for minor approaches to two-way stop-controlled intersections are indicated in <i>italics</i> ; Intersections 6 and 10 do not exist without project. Source: W-Trans 2019.						

Roadway Segment Levels of Service

The roadway segment LOS methodology found in Chapter 17, Urban Street Segments, of the 2010 HCM is the basis of the automobile LOS analysis. This method does not address the capacity of a facility; rather, it determines an LOS based on the calculated percentage of the street's base free-flow speed. In essence, congestion occurs as traffic volumes increase, and the overall travel speed is reduced due to increased delay. Therefore, the slower the speed, the lower that speed is as a percentage of free-flow speed, and the lower the LOS. Corridor levels of service were assessed using the software applications Synchro and SimTraffic. Synchro is used to analyze operation at each of the signalized intersections along a segment, which is where the majority of delay is encountered. SimTraffic is an extension of Synchro that simulates vehicle progression along a corridor, considering the operation of individual signals as well as influences such as interactions among signals, queue spillback, and merging activity. Given the stochastic nature of traffic simulation models, the average speeds of 10 randomly-seeded SimTraffic runs were used to normalize the results and determine average travel speeds along the study corridor.

The relationships between LOS and percentages of free-flow speed, where free-flow speed is assumed to be the speed limit, are presented in Table 3.14-5.

Table 3.14-5: Automobile Level of Service Criteria

Level of Service	Travel Speed as a Percentage of Base Free-Flow Speed (%)
A	>85
B	>67–85
C	>50–67
D	>40–50
E	>30–40
F	≤30

Sources: Highway Capacity Manual (HCM). Transportation Research Board, 2010.

Study Area

Under existing conditions, both the eastbound and westbound directions of the Sonoma Highway roadway segment between Oakmont Drive and Calistoga Road are operating acceptably. A summary of the roadway segment LOS calculations is shown in Table 3.14-6, and copies of the LOS calculations are provided in the W-Trans Report (Appendix I).

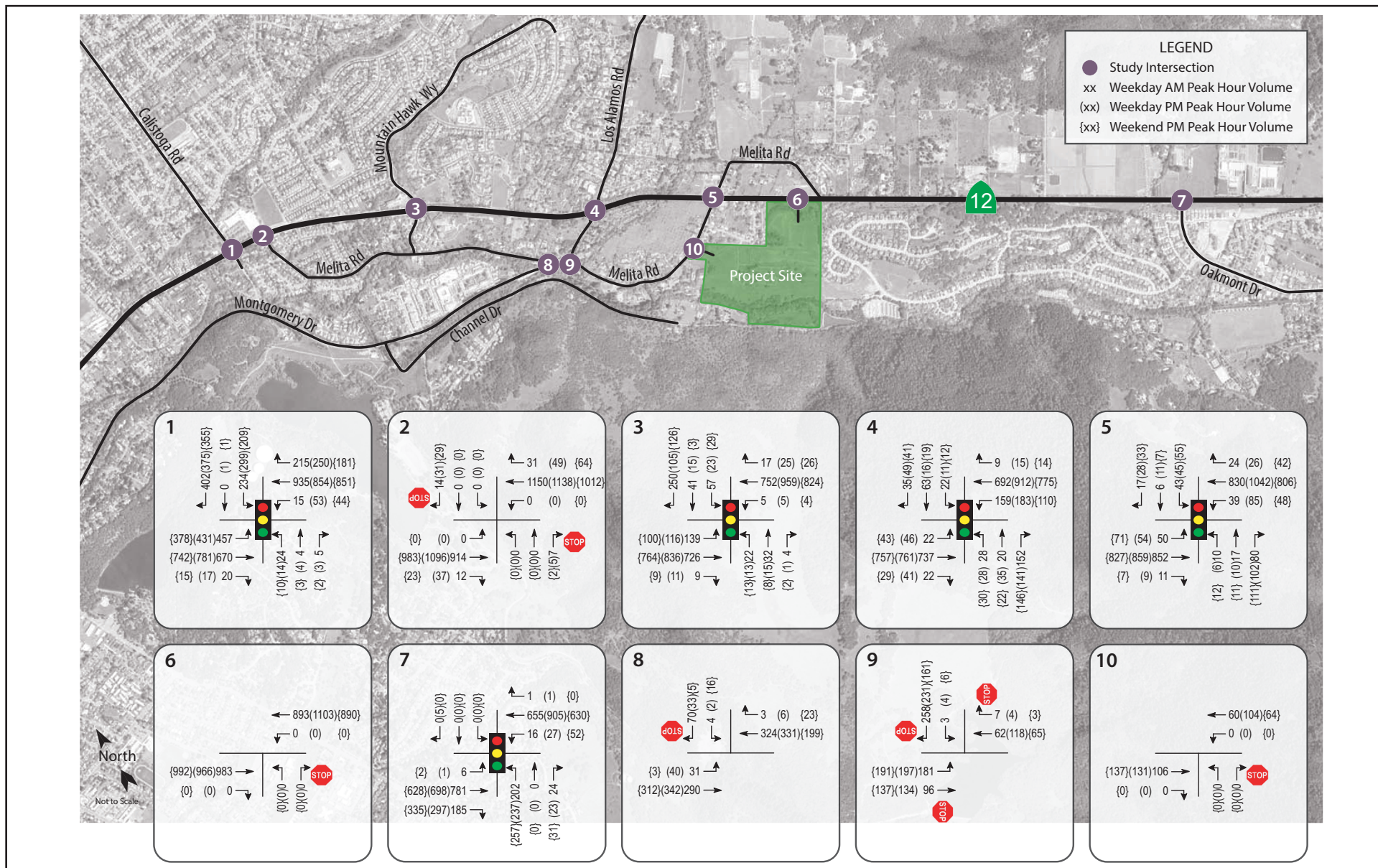
Table 3.14-6: Existing Peak-hour Roadway Segment Levels of Service on Sonoma Highway

Direction	AM Peak-hour			PM Peak-hour			Saturday Midday Peak-hour		
	Speed	% FFS	LOS	Speed	% FFS	LOS	Speed	% FFS	LOS
Eastbound	38	69%	B	37	67%	B	37	67%	B
Westbound	33	60%	C	29	53%	C	36	65%	C

Notes:
Speed is measured in miles per hour
% FFS = percent of free-flow speed
LOS = Level of Service
Source: W-Trans 2019.

Existing Public Transit Service and Facilities

Santa Rosa CityBus provides local bus service within the City of Santa Rosa. However, there are no CityBus routes that serve the project area. Sonoma County Transit (SCT) provides regional bus service in Santa Rosa and surrounding communities, with multiple routes and stops located within the study area, including several that connect to Santa Rosa CityBus routes. Local Routes 30 and 34 provide regional bus service to the project site. Bus stops serving these routes are located along Sonoma Highway at Calistoga Road, Melita Road (west), Mountain Hawk Drive, Fairway Drive, Los Alamos Road, Melita Road (east end), and Oakmont Drive. The bus stop at the east end of Melita Road is adjacent to the project access (Elnoka Lane) for eastbound bus routes, and approximately 220 feet east of the project access in the westbound direction. Route 38, which provides service from Oakmont to Sonoma and on to San Rafael, is also served by the bus stops at Oakmont Drive.



Source: W-Trans, 2017



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Route 30 provides access to stops in Santa Rosa and Sonoma that include Kaiser and Memorial Hospitals, downtown transit mall, and other shopping centers in Santa Rosa. This route operates Monday through Friday with approximately 2-hour headways from 6:00 a.m. to 9:30 p.m. In addition, weekend service is provided with approximately three-hour headways from 6:00 a.m. to 8:30 p.m.

Route 34 provides access commuter service from the Santa Rosa downtown transit mall to Sonoma. This route operates Monday through Friday with one stop during the AM peak-hour at 7:00 a.m. and one in the PM peak-hour at 5:30 p.m.

Two bicycles can be carried on most SCT buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on SCT buses at the discretion of the driver.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. Santa Rosa Paratransit and Sonoma County Paratransit is designed to serve the needs of individuals with disabilities within Santa Rosa and the greater Santa Rosa area.

Project Site

While Sonoma County Transit Routes 30 and 34 have stops near the northeast corner of the project, no public transit currently serves the interior of the project site.

Existing Bicycle Facilities

The Highway Design Manual² defines four types of bicycle facilities:

- Class I Multi-Use Path—a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- Class II Bike Lane—a striped and signed lane for one-way bike travel on a street or highway.
- Class III Bike Route—signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- Class IV—Class IV facilities, commonly referred to as protected bicycle lanes or cycle tracks, are a facility that combines elements of Class I and Class II facilities. They offer an exclusive bicycle route immediately adjacent to a roadway similar to a Class II facility, but provide a physical separation from traffic with plastic delineators, raised curb, or parked automobiles.

In the project area, Class II bike lanes exist on Calistoga Road from Badger Road to Sonoma Highway, a Class II bike lane exists on Montgomery Road between Melita Road and Spring Lake Court, and a Class III bicycle boulevard exists on Mountain Hawk Drive from Sonoma Highway to San Ramon Way. Future plans include a Class II bike lane on Sonoma Highway from Calistoga Road to the Santa Rosa City Limits, a distance of approximately three miles. An additional Class II bike lane is also planned for Los Alamos Road between Melita Road and Sonoma Highway.

² California Department of Transportation (Caltrans). 2012. Highway Design Manual (HCM).

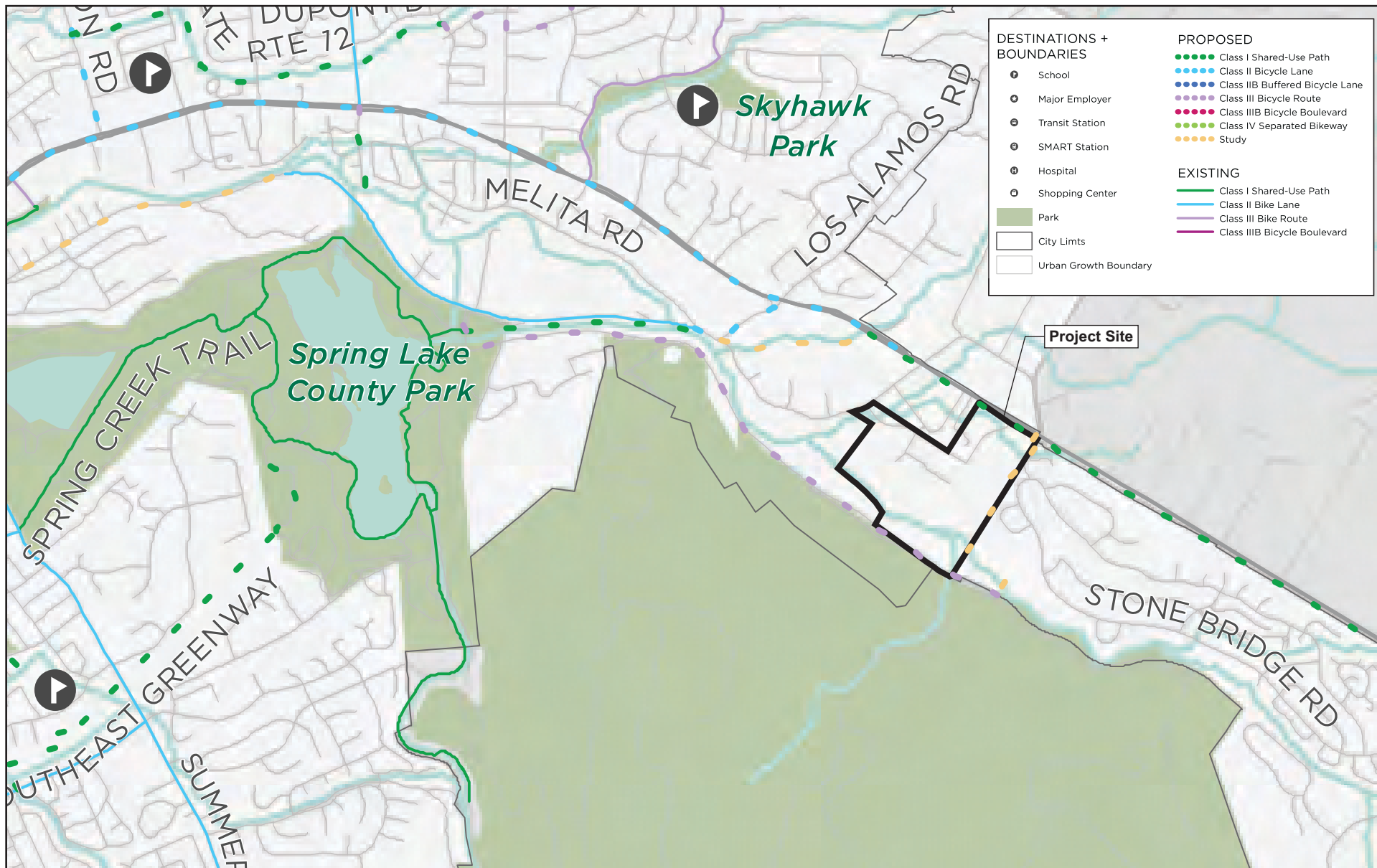
As indicated in the City of Santa Rosa Bicycle and Pedestrian Master Plan Update 2018, future plans include a Class II bike lane on Sonoma Highway from Calistoga Road to the Melita Road (east) signalized intersection and a Class II bicycle route directly adjacent to the project along Channel Drive. The 2018 Plan also identifies a “study” bicycle trail west of the project site along Santa Rosa Creek between Sonoma Highway and Melita Road (near the Los Alamos Road intersection); the Channel Trail, a proposed 0.50-mile study route along the eastern edge of the Elnoka project site extending from Sonoma Highway to Channel Drive/Channel Trail, and a Class I Shared-Use Path along the project’s frontage on Sonoma Highway.

A Class I multi-use path called the Sonoma Valley Trail is planned to generally parallel Sonoma Highway between Los Alamos Road and Agua Caliente Road. The approximately 13-mile-long trail would serve as a key bicycle linkage in a larger cross-county network that would connect Sebastopol to Sonoma and beyond. A preferred alignment for the 13-mile trail is identified in the Sonoma Valley Trail Feasibility Study, January 2016, Sonoma County Regional Parks (Feasibility Study). In the project area, the 2016 preferred alignment would run along the west side of Sonoma Highway between Oakmont Drive and the Elnoka project’s intersection (which is identified as “Elnoka Lane” and having a future traffic signal). To the north of Elnoka Lane, the preferred alignment would enter and traverse the project site, meeting Melita Road at Susan Road, and then run alongside Melita Road to the vicinity of Los Alamos where the 2016 preferred alignment would end. An alternative alignment would run along the project’s Sonoma Highway Frontage.

Table 3.14-7 summarizes the existing and planned bicycle facilities in the project vicinity, and a map excerpt from the City’s bicycle plan showing these facilities is provided in Exhibit 3.14-3.

Table 3.14-7: Bicycle Facility Summary

Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
Calistoga Road	II	1.43	Badger Road	Sonoma Highway
Montgomery Road	II	0.77	Melita Road	Spring Lake Court
Mountain Hawk Drive	III	0.55	Sonoma Highway	San Ramon Way
Planned				
Sonoma Highway	II	3.00	Calistoga Road	City limits
Los Alamos Road	II	0.19	Melita Road	Sonoma Highway
Channel Drive	I/III	3.00	Montgomery Drive	Oakmont Drive
Sonoma Valley Trail	I	13.0	Los Alamos Road	Agua Caliente Road
Planned (Study)				
Channel Trail	I	0.50	Sonoma Highway	Channel Drive
Santa Rosa Creek Trail	I	0.39	Melita Road	Sonoma Highway
Source: Santa Rosa Bicycle and Pedestrian Master Plan Update 2018, City of Santa Rosa; W-Trans 2019.				



Source: W-Trans, 2018

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Exhibit 3.14-3 Existing and Planned Bike Facilities

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Project Site

There are no bicycle facilities currently on the project site. However, as previously mentioned, the City of Santa Rosa Bicycle and Pedestrian Master Plan Update 2018 identifies the following proposed bicycle facilities on or directly adjacent to the project site:

- Channel Trail: proposed 0.50-mile study route along the eastern edge of the project site extending from Sonoma Highway to Channel Drive/Channel Trail.
- Sonoma Highway proposed Class I shared-use path along the project's frontage on Sonoma Highway.

Also previously mentioned, the 2016 Sonoma Valley Trail Feasibility Study identifies the following optional routes on the project site:

- Preferred alignment along the project's Sonoma Highway Frontage from the southern boundary to Elnoka Lane and then entering and traversing the project site, meeting Melita Road at Susan Road.
- Alternative alignment along the project's Sonoma Highway Frontage.

As already noted in the Chapter 2.0, Project Description, the project would include construction of this alternative trail alignment along the project frontage.

Existing Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc.

Study Area

Generally, the sidewalk coverage along Sonoma Highway is limited with large gaps between existing segments. Sidewalks are available on the north side of Sonoma Highway from Calistoga Road to Melita Road (west) and on the south side of Sonoma Highway from Melita Road (west) to Saint Francis Road. Sidewalk coverage on the south side of Sonoma Highway begins again 350 feet west of Queen Ann Drive and extends east to Feliz Road. Sidewalk coverage on the north side of Sonoma Highway then begins again approximately 370 feet west of Saint Francis Road and continues east to Mountain Hawk Way. There is an additional segment of sidewalk on the north side of Sonoma Highway from Fisher Road to a point approximately 260 feet east. There is also another 310-foot segment of sidewalk on the south side of Sonoma Highway, bordering Hope Chapel Santa Rosa, across from Fairway Drive. There are no additional sidewalks between the existing sidewalk bordering Hope Chapel and Oakmont Drive.

Project Site

No sidewalks border or exist within the project site boundaries.

3.14.3 - Regulatory Framework

Federal

No federal plans, policies, regulations, or laws related to transportation and traffic are applicable to the project.

State

California Department of Transportation

Caltrans builds, operates, and maintains the State highway system, including the interstate highway system. Caltrans's mission is to improve mobility Statewide. Caltrans operates under strategic goals to provide a safe transportation system, optimize throughput, and ensure reliable travel times, improve the delivery of State highway projects, provide transportation choices, and improve and enhance the State's investments and resources. Caltrans controls the planning of the State highway system and accessibility to the system. Caltrans establishes LOS goals for highways and works with local and regional agencies to assess impacts and develop funding sources for improvements to the State highway system. Caltrans requires encroachment permits from agencies or new development before any construction work may be undertaken within the State's right-of-way. For projects that would impact traffic flow and levels of services on State highways, Caltrans would review measures to mitigate the traffic impacts.

Senate Bill 743

Since the time that the project's notice of preparation was released, the CEQA Guidelines have been revised to include assessment of the VMT that would be generated by a project. VMT analysis became a mandatory component of CEQA transportation analyses on July 1, 2020. VMT thresholds for this analysis were established based on guidance provided by the California Office of Planning and Research publication Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, as well as the Vehicle Miles Traveled Guidelines Final Draft issued by the City of Santa Rosa in June 2020. These criteria are consistent with those applied by Caltrans as outlined in the Vehicle Miles Traveled-Focused Transportation Impact Study Guide, California Department of Transportation, May 2020.

Regional

Sonoma County Transportation Authority Comprehensive Transportation Plan

The Sonoma County Transportation Authority (SCTA) is the agency that provides planning, project management, finance, grant administration, and other important functions related to the transportation network in Sonoma County. In 1997, SCTA relinquished its position as the County Congestion Management Agency under new State legislation that made this function optional. The SCTA now serves as the coordinating and advocacy agency for transportation funding for Sonoma County. The SCTA manages Measure M funds and prioritizes state and federal funds for roadway, transit, bicycle, and pedestrian projects. Measure M or the Traffic Relief Act for Sonoma County was passed by Sonoma County voters in order provide multimodal transportation improvement throughout the county. These improvements include, among others, widening U.S. 101 for HOV lanes, improving local street operations, and building safe bicycle and pedestrian routes. The SCTA partners with

Caltrans on the State Highway System and manages transportation improvement projects. There is currently no adopted regional congestion management program in Sonoma County; however, SCTA has adopted and is implementing the Comprehensive Transportation Plan: Moving Forward 2040, which serves as the main long-term transportation planning document for Sonoma County.

Local

Santa Rosa General Plan 2035

The Santa Rosa General Plan 2035 established the following goals and policies relevant to transportation:

- **Goal T-A:** Provide a safe sustainable transportation system.
- **Policy T-A-3:** Evaluate corridor LOS and develop strategies to improve service levels.
- **Policy T-A-7:** Expand non-motorized and bus infrastructure throughout the city such that greater amenities exist for cyclists, pedestrians, and transit users in order to promote a healthy, sustainable city and further reduce GHG emissions.
- **Goal T-B:** Provide a safe, efficient, free-flowing circulation system.
- **Policy T-B-1:** Require site design to focus through-traffic on regional/arterial streets. Employ the following design techniques to increase driver safety and traffic efficiency.
 - Reduce the number of driveways and intersections;
 - Combine driveways to serve numerous small parcels;
 - Avoid residential access;
 - Install and facilitate timing of traffic signals; and
 - Ensure continuous sidewalks.
- **Goal T-C:** Reduce traffic volumes and speeds in neighborhoods.
- **Policy T-C-1:** Minimize through traffic in residential neighborhoods and avoid excessive traffic volumes greater than that dictated by street design and classification, by providing attractive regional/arterial streets to accommodate cross-town traffic.
- **Policy T-C-3:** Implement traffic calming techniques on streets subject to high speed and/or cut-through traffic, in order to improve neighborhood livability. Techniques include:
 - Narrow streets;
 - On-street parking;
 - Chokers or diverters;
 - Speed bumps;
 - Rough paved crosswalks;
 - Rumble strips; and
 - Planted islands.
- **Policy T-C-4:** Improve traffic and reduce neighborhood traffic impacts in all quadrants of the city by completing needed improvement in order to maximize the number of projects completed.
- **Goal T-D:** Maintain acceptable motor vehicle traffic flows.

- **Policy T-D-1:** Maintain an LOS D or better along all major corridors.
- **Policy T-D-3:** Require traffic studies for development projects that may have a substantial impact on the circulation system.
- **Goal T-E:** Complete needed transportation improvement in a timely manner.
- **Policy T-E-2:** Require development projects to pay a fair share of costs for multimodal transportation system improvements.
- **Goal T-G:** Identify, preserve, and enhance scenic roads throughout Santa Rosa in both rural and developed areas.
- **Policy T-G-5:** Retain existing trees and vegetation along scenic roads, as possible. Enhance roadway appearance through landscaping, using native plant material.
- **Policy T-G-6:** Provide large setbacks from scenic roads, as possible to avoid encroachment of buildings on the view of the roadway.
- **Goal T-H:** Expand the existing transit network to reduce greenhouse gas emission and to provide convenient and efficient public transportation to workplaces, shopping, SMART stations, and other destinations.
- **Policy T-H-7:** Require community care facilities and senior housing projects with more than 25 units to provide accessible transportation services for the convenience of residents.
- **Goal T-J:** Provide attractive and safe streets for pedestrians and bicyclists.
- **Goal T-K:** Develop a safe, convenient, and continuous network of pedestrian sidewalks and pathways that link neighborhoods with schools, parks, shopping areas, and employment centers.
- **Policy T-K-2:** Allow the sharing or parallel development of pedestrian walkways with bicycle paths, where that can be safely done, in order to maximize the use of public rights-of-way.
- **Goal T-L:** Develop a citywide system of designed bikeways that serves both experience and casual bicyclists, and which maximizes bicycle use for commuting, recreation, and local transport.
- **Policy T-L:** Provide bicycle lanes along all regional/arterial streets and high volume transitional/collector streets.
- **Policy T-L:** As part of the City's Capital Improvement Program, or street and intersection projects constructed by private developers. Install and construct bicycle facilities, including:
 - Class I paths, Class II lanes, and Class III route signs;
 - Signal detectors; and/or;
 - Other facilities.
- **Policy T-L-8:** Require new development to dedicate land and/or construct/install bicycle facilities, and provide bicycle parking as specified in the Zoning Code, where a rough proportionality to demand from the project is established. Facilities such as showers and bicycles storages shall also be considered.

3.14.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G, issued in 2020, to determine whether transportation and traffic impacts are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities?
- b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (VMT analysis)?
- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- d) Result in inadequate emergency access?

Approach to Analysis

Analysis in this section is based on the traffic analysis prepared by W-Trans for the project. The complete assessment is provided in Appendix I. The following is a summary of the analysis methodology.

VMT Analysis

The SCTA operates and maintains the regional travel demand model that is capable of producing VMT estimates. The VMT thresholds and projections applied in this analysis reflect refinements made by SCTA in the summer of 2020 as produced in a model version released in September 2020. Based on output from the SCTA model, the existing residential VMT per capita in the County of Sonoma is 16.53 miles. Reducing this number by 15 percent establishes a VMT per capita significance threshold of 14.05 miles. Similarly, the existing VMT per employee at the countywide level is 12.53 miles, which when reduced by 15 percent establishes a VMT per employee significance threshold of 10.65 miles.

LOS Analysis

LOS analysis is provided for informational purposes to inform the identification of conditions of approval that would ensure consistency with General Plan policies.

Trip Generation

Trip generation was estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition's,³ Continuing Care Retirement Communities (CCRC) land use designation. Further information on how trip generation was prepared and analyzed is located in the Traffic Impact Study located in Appendix I.

In reviewing the trip generation land use categories as published by the ITE in its Trip Generation Manual, the "CCRC" land use (ITE land use No. 255) was determined appropriate, based on the project description. The ITE land use description for the CCRC land use states that, "[CCRCs] are land

³ Institute of Transportation Engineers (ITE). 2012. Trip Generation Manual, 9th Edition.

uses that provide multiple elements of senior adult living. CCRCs combine aspects of independent living with increased care, as lifestyle needs change with time. Housing options may include various combinations of senior adult (detached), senior adult (attached), congregate care, assisted living and skilled nursing care—aimed at allowing the residents to live in one community as their medical needs change. The communities may also contain special services such as medical, dining, recreational and some limited, supporting retail facilities. CCRCs are usually self-contained villages.”

ITE bases CCRC trip generation on the independent variable “occupied units,” which, depending on the type of housing, may include dwelling units, rooms, or beds. The project’s 74 detached cottages and 528 apartments would be considered 602 units. Assisted living uses differ in that their independent variable is defined by the number of beds. The 62 assisted living units are anticipated to have an average occupancy of 1.18 persons per unit, which translates to 73 beds. Combined, the 602 senior housing units and 73 assisted living beds result in a total unit count of 675 CCRC units as described by ITE. Note that this is slightly higher than the 664 senior care units referred to in the project description because of the distinction in how ITE counts the assisted living units.

ITE trip generation rates for CCRC’s were carefully reviewed to ensure that the resulting trip projections are conservative, capturing the anticipated worst-case traffic levels. First, ITE rates based on the number of “occupied units” were applied, capturing the impacts associated with a development where all units and beds are 100 percent full. Second, for some land use categories including that of CCRC, ITE provides both the average trip generation rates as well as fitted curve formula-based rates that vary according to the number of units. Depending on the size of the project, sometimes the average rate will result in a higher projection of trips while other times the formula-based rate will result in higher projections. In the case of the project, the formula-based rates result in higher estimates of trips than the average rates and were therefore conservatively chosen for use in the analysis.

With respect to the 12 proposed on-site employee housing units, ITE rates for the “Apartment” land use (land use No. 220) were applied. No deductions were taken to account for the internal commute trips made by employees living and working on-site, though such trips would be expected to have a beneficial effect on trips generated.

As shown in Table 3.14-8, the project is expected to generate 1,822 trips per weekday including 115 during the AM peak-hour and 154 during the PM peak-hour, and 1,783 trips on Saturdays, including 205 during the Midday peak-hour.

Table 3.14-8: Trip Generation Summary

Land Use	Units	Weekday						Saturday			
		Daily		AM Peak-hour		PM Peak-hour		Daily		Midday Peak-hour	
		Rate	Trips	Rate	Trips (In: Out)	Rate	Trips (In: Out)	Rate	Trips	Rate	Trips (In: Out)
CCRC	675 ^a	2.58	1,742	0.16	109 (71:38)	0.22	147 (59:88)	2.53	1,706	0.30	199 (108:91)

Land Use	Units	Weekday						Saturday			
		Daily		AM Peak-hour		PM Peak-hour		Daily		Midday Peak-hour	
		Rate	Trips	Rate	Trips (In: Out)	Rate	Trips (In: Out)	Rate	Trips	Rate	Trips (In: Out)
Employee Apartments	12 ^b	6.65	80	0.51	6 (1:5)	0.62	7 (5:2)	6.39	77	0.52	6 (3:3)
Total	—	—	1,822	—	115 (72:43)	—	154 (64:90)	—	1,783	—	205 (111:94)
Notes: ^a occupied units ^b dwelling unit Source: W-Trans 2019.											

Traffic Distribution

The pattern used to allocate new project trips to the street network was determined by reviewing traffic patterns at the study intersections as well as at the two intersections serving the adjacent Oakmont senior community, census data, testing of predicted travel times along various travel routes using online mapping services, and knowledge of the study area. The proximity of nearby shopping and services was also considered, including those in Oakmont, a store and gas station on Melita Road, a small retail complex on Mountain Hawk Drive, and the Safeway grocery store in the St. Francis Center near Calistoga Road. Based on this data, the trip distribution assumptions shown in Table 3.14-9 were developed, then confirmed with City staff and applied. Exhibit 3.14-4 illustrates project traffic volumes based on the trip distribution assumptions.

Table 3.14-9: Trip Distribution Assumptions

Route	Distribution Percent
To/From Sonoma Highway west of Calistoga Road	38 percent
To/From Montgomery Drive west of Melita Road	22 percent
To/From Sonoma Highway east of Oakmont Drive	16 percent
To/From Calistoga Road north of Sonoma Highway	12 percent
To/From Oakmont Drive south of Sonoma Highway	8 percent
To/From Melita Road north of Sonoma Highway	2 percent
To/From Mountain Hawk Drive north of Sonoma Highway	2 percent
Total	100 percent
Source: W-Trans 2019.	

Traffic Signal Warrants

A signal warrant analysis was performed to determine the potential need for a traffic signal at the project access on Sonoma Highway.

Chapter 4C of the California Manual on Uniform Traffic Control Devices (MUTCD) provides guidance on when a traffic signal should be considered. There are nine different warrants, or criteria, presented as follows:

- Warrant 1, 8-Hour Vehicular Volume
- Warrant 2, 4-Hour Vehicular Volume
- Warrant 3, Peak-hour Volume
- Warrant 4, Pedestrian Volume
- Warrant 5, School Crossing
- Warrant 6, Coordinated Signal System
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network
- Warrant 9, Intersection Near a Grade Crossing

Further discussion of Traffic Signal Warrants can be found in the Traffic Impact Study by W-Trans in Appendix I.

Operation of the transportation network was evaluated under the following scenarios:

- **Existing Conditions**—this scenario provides an evaluation of current operation based on existing traffic volumes during the weekday AM and PM peak periods, which capture traffic conditions during peak morning and evening commute hours, as well as the Saturday Midday peak period, which captures the highest hour of traffic occurring during the weekend Midday (which in the study area reflects the highest 1-hour volumes between 12:30 p.m. and 2:30 p.m.). This condition does not include project-generated traffic volumes. Volume data was collected in April 2017 while local schools were in session.
- **Existing Plus Project Conditions**—This scenario evaluates the Existing Conditions scenario described above plus the addition of project-generated traffic volumes.
- **Baseline Conditions**—this scenario provides an evaluation of traffic associated with approved projects in both the City of Santa Rosa and the County of Sonoma that are anticipated to be constructed and or become operational in the next 2 to 3 years. The traffic volumes described are during the weekday AM and PM peak periods, which capture traffic conditions during peak morning and evening commute hours, as well as the Saturday Midday peak period, which captures the highest hour of traffic occurring during the weekend Midday (which in the study area reflects the highest one-hour volumes between 12:30 p.m. and 2:30 p.m.). The Baseline conditions were calculated by adding the Existing Conditions to the traffic associated with approved projects in the area. This condition does not include project-generated traffic volumes. Projects anticipated to be constructed used in the baseline scenario were obtained from the City of Santa Rosa’s “Permit Santa Rosa” portal and County of Sonoma Permit and Resource Management Department.
- **Baseline Plus Project Conditions**—This scenario evaluates the Baseline Conditions scenario described above plus the addition of project-generated traffic volumes.

- **Future Conditions**—this scenario provides an evaluation of traffic associated with future traffic volumes without the Elnoka project based on data from the SCTA’s travel demand model. The traffic volumes described are during the weekday AM and PM peak periods, which capture traffic conditions during peak morning and evening commute hours, as well as the Saturday Midday peak period, which captures the highest hour of traffic occurring during the weekend Midday (which in the study area reflects the highest one-hour volumes between 12:30 p.m. and 2:30 p.m.).
- **Future Plus Project Conditions**—This scenario evaluates the Future Conditions scenario described above plus the addition of project-generated traffic volumes.

Specific Thresholds of Significance

The following City standards and criteria were considered when reaching the impact conclusions under the thresholds of significance a) through d) listed above:

Vehicle Miles Traveled

A significant VMT impact would occur if:

- The project’s residential VMT per Capita would exceed a level of 15 percent below the existing countywide average residential VMT per Capita, or 14.05 miles; or
- The project’s employment VMT per Employee would exceed a level of 15 percent below the existing countywide average VMT per Employee, or 10.65 miles.

Alternative Transportation, Bicycle Facilities, Pedestrian Facilities, and Transit

- **Consistency with alternative transportation policies:** A significant impact would occur if the project violated alternative transportation policies set forth in the Santa Rosa General Plan 2035.
- **Consistency with the Bicycle and Pedestrian Master Plan:** A significant impact would occur if the project would preclude pedestrian and bicycle improvements identified in the Santa Rosa Bicycle and Pedestrian Master Plan from being successfully implemented.
- **Bicycle/Pedestrian Facilities:** The need for an improvement to ensure consistency with the General Plan is identified if it would violate applicable design guidelines, standards, or plans for facilities that serve bicyclists and/or pedestrians.
- **Transit:** The need for an improvement to ensure consistency with the General Plan is identified if the project would cause a substantial delay in transit service, increase demand for transit beyond existing or planned service capacity, or create barriers to travel for pedestrians walking to transit terminals and bus stops.

Intersections and Roadways

LOS analysis is provided for informational purposes only, to inform the project’s conditions of approval. The following criteria were used to determine the project’s consistency with General Plan policies and the need for related improvements:

Would the project:

Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and transit. The City of Santa Rosa establishes measures of effectiveness and significance thresholds in Guidance for the Preparation of Traffic Operational Analysis, July 2019.

- **Roadway Segment:** For the purposes of this analysis, criteria established by the City of Santa Rosa were applied to the Sonoma Highway roadway segment, since the roadway essentially functions as an arterial street serving local City uses in addition to regional highway traffic. Policy T-D-1 of the General Plan 2035 states that the City will maintain a LOS D or better along all major corridors. Exceptions to meeting this standard are allowed:
 - Within downtown;
 - Where attainment would result in significant environmental degradation;
 - Where topography or environmental impacts makes the improvement impossible; or
 - Where attainment would ensure loss of an area's unique character.
- **Intersections:** For the purposes of this analysis, the City's LOS D criterion for roadway segments was also applied to intersections. At unsignalized intersections, operation below LOS D on stop-controlled approaches was considered acceptable if 1) the intersection's overall LOS is acceptable, and 2) warrants for the installation of a traffic signal from the MUTCD are unmet.
- **Locations with Unacceptable LOS Without Project:** With respect to significance thresholds for intersections that are already operating unacceptably before the addition of project traffic, an increase in average vehicle delay of greater than 5 seconds is considered significant and cumulatively considerable. A similar logic was applied to corridors, where a reduction of one mile per hour or greater on a roadway that is already projected to be operating unacceptably would trigger the need for an improvement to ensure consistency with the General Plan.

Impact Evaluation

Vehicle Miles Traveled

Impact TRANS-1: The proposed project would not result in a substantial increase in vehicle miles traveled.

Approach

The SCTM/15 model maintained by SCTA was used to establish VMT significance thresholds, and a custom run of the SCTA model was used to produce project-specific VMT data. The model estimates the VMT associated with the aggregate land uses in each "traffic analysis zone" (TAZ). The project site is located within TAZ 614 of the SCTA model. An assessment of both the project's VMT per capita and VMT per employee was chosen in accordance with the City's draft VMT guidelines, guidance provided in the OPR Technical Advisory, and criteria applied by Caltrans.

The SCTA model includes a limited number of land use categories. Since a CCRC land use is not available in the model, the proposed Elnoka project was input to the model using the following land use types.

- The 74 senior cottage units and 528 senior apartments were input as senior housing units.
- The 12 employee apartments were input as multifamily residential units.
- The assisted living facility was input as 10,210 square feet of institutional uses based on the factor of 3.33 employees per 1,000 square feet applied in the SCTA model, which is equivalent to the 34 assisted living center employees projected by the Elnoka project applicant to be onsite daily. The institutional land use also generates visitor travel in the SCTA model, capturing VMT associated with visitors of the residents in the assisted living facility.
- Travel associated with the project's employees was also input as institutional square footage using the SCTA model equivalency factor of 3.33 employees per 1,000 square feet. A total of 88 daily employees are anticipated to be onsite working at the project. Excluding the 34 assisted living facility employees whose travel is already accounted for in that use, a total of 54 additional employees on average are projected to be onsite daily, which is equivalent to 16,216 square feet of institutional building space.

It should be noted that a CCRC captures some travel internally, in contrast to that which would be generated by the above list of individual land uses. The total incremental increase in regional VMT associated with the project as calculated in the SCTA model should accordingly be considered conservative. While the effects of CCRC components including onsite dining, onsite recreation and social amenities, and a resident shuttle are not directly accounted for in the modeling of the project's VMT per capita, an informational discussion of these influences is provided at the end of this section.

VMT Analysis

Residential VMT per capita represents the VMT associated with home-based trips divided by the number of residents, while VMT per employee represents the VMT associated with home-based employment trips (commute trips) divided by the number of employees. A project's VMT per capita and VMT per employee are compared to the countywide average per the City of Santa Rosa's VMT guidance. A project would be considered to have a less-than-significant impact if its VMT per capita and VMT per employee are 15 percent or more below the countywide average.

Based on output from a dedicated run of the SCTA travel demand model, the proposed project's residents are anticipated to generate 12,481 daily vehicle miles of travel. Translated to a per capita metric, the project's 975 residents are projected to generate 12.80 VMT per capita. Since this is below the applied significance threshold of 14.05 VMT per capita, the resulting impact would be considered less than significant.

With respect to employee VMT, the proposed project would be the only employment-based use in the TAZ and is projected to produce an average VMT per employee of 11.95 VMT, which multiplied by the 88 total daily employees translates to 1,052 daily vehicle miles of travel. These projections do

not, however, account for the project's provision of 12 onsite employee apartments and therefore require adjustment. Each employee living onsite would generate no commute-based VMT and would produce an average of 11.95 fewer daily VMT than if they lived offsite. Conservatively assuming that each employee apartment houses one onsite employee (i.e., there would be no employee apartments with two or more residents working onsite), total employee VMT would be reduced by 143 daily vehicle miles of travel, resulting in an adjusted employee VMT of 909 daily miles and a corresponding performance metric of 10.33 VMT per employee. Since this is below the applied significance threshold of 10.65 VMT per employee, the resulting impact would be considered less than significant.

A summary of the VMT findings is provided in Table 3.14-10. The proposed project is anticipated to generate VMT per capita and VMT per employee performance measures that are more than 15 percent below Countywide averages and would thereby result in a less than significant VMT impact.

Table 3.14-10: Vehicle Miles Traveled Analysis Summary

Metric	Countywide Baseline VMT Rate	Significance Threshold	Project VMT Rate	Resulting Significance
Residential VMT per Capita	16.53	14.05	12.80	Less than significant
Employment VMT per Employee	12.53	10.65	10.33	Less than significant
Notes: VMT = Vehicle Miles Traveled Residential VMT is measured in home-based VMT per Capita, or the number of daily miles driven per resident; Employment VMT is measured in VMT per Employee, or the number of daily commute-based miles driven per employee; Countywide averages and significance thresholds based on SCTA model version released in September 2020 Source: W-Trans 2020.				

Potential for Additional Reductions in Residential VMT

As noted above, the VMT modeling completed for the project uses the “senior housing” land use in the SCTM\15 travel demand model. As a continuing care retirement community, the proposed project does, however, contain components that will help to further reduce VMT compared to conventional senior housing. The project would provide onsite dining services as well as onsite recreational and social activities, reducing both the need and frequency of offsite resident travel. The project would also provide a shuttle service for residents to complete errands including medical appointments and shopping, further reducing the need and frequency of residents driving their own vehicles compared to a conventional senior housing use. While the applied residential VMT analysis conservatively does not include deductions to account for these specific CCRC characteristics, the following estimates of potential reductions are provided for informational purposes.

The 2017 National Household Travel Survey (NHTS) conducted by the Federal Highway Administration (FHWA) was used to estimate the portion of daily travel that is attributable to meals, social/recreational functions, medical/dental services, and shopping/errands. Database query tools provided on the NHTS website (<https://nhts.ornl.gov/>) were used to filter typical trip purpose types

for home-based trips made by persons that are age 55 or older. Following is an estimation of the additional VMT reductions associated with these CCRC characteristics.

On-site Dining: NHTS data indicates that approximately 10 percent of daily trips are related to traveling for meals. Conservatively assuming that the provision of onsite dining services would reduce Elnoka resident travel for meals by half, the projected residential VMT would be reduced by 624 miles per day.

Social and Recreational: For persons of age 55 or older, the NHTS data indicates that approximately 18 percent of daily travel is related to social and recreational functions. Given that the proposed CCRC would include recreational facilities and support social activities onsite, and assuming that offsite social/recreational auto travel would be reduced by half, the projected residential VMT would be reduced by 1,123 miles per day.

Shuttle Service: The proposed project would operate a shuttle that could be used by residents for trips to appointments and shopping. The NHTS data indicates that 5 percent of daily travel is typically related to medical/dental appointments with 31 percent related to shopping and errands. Because there is some level of inconvenience and added time in using a shared shuttle, it is assumed that only 20 percent of the medical/dental/shopping trips made by Elnoka residents would be made via the shuttle. The resulting projected reduction in residential VMT is 899 miles per day.

Combined, the above CCRC characteristics may effectively reduce the project's residential VMT from 12,481 daily vehicle miles of travel to 9,835 daily vehicle miles of travel, which translates to 10.09 VMT per capita. This is approximately 21 percent lower than the VMT per capita projected by the SCTA model using a conventional senior housing land use, and as applied in the VMT analysis for the purposes of determining significance.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None.

Level of Significance After Mitigation

Less than significant impact.

Roadway Safety Hazards

Impact TRANS-2: The proposed project could substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

This project proposes to develop 676 residential units as part of a CCRC on a 68.7-acre site. This project does not propose incompatible uses, such as farm equipment, or design features such as sharp curves or dangerous intersections.

Construction

Construction of the project would require regular deliveries of equipment and materials to the project site, as well as daily trips by construction workers. Given the location of the project site, nearly all construction traffic would be expected to travel via Sonoma Highway. This routing would generally avoid residential streets in the vicinity.

Project construction activities, including the extension of utility infrastructure, may result in some temporary lane closures in the area. The combination of these temporary closures and addition of construction-related traffic may create changes in traffic patterns at nearby intersections. The resulting peak-hour traffic volumes during the construction period are likely to be less than those anticipated upon completion of the project. Intersection levels of service are anticipated to remain within acceptable parameters during construction, though depending on the construction staging, a traffic control plan should be implemented to ensure that detours are clearly indicated, and traffic flow is maintained. Given the potential level of construction activity that could occur at the project site, this is considered a potentially significant impact.

MM TRANS-2a requires the project applicant to implement a construction a traffic control plan to mitigate impacts to a level of less than significant.

Site Access

The proposed project will be primarily accessed via an existing driveway on Sonoma Highway. A secondary access point will be provided via a new driveway on Melita Road.

Sonoma Highway Frontage

The City's General Plan identifies future widening of Sonoma Highway to include two through lanes in each direction between the Melita Road signal and Pythian Road. The project frontage comprises one portion of this segment. It is unclear from the project's site and development plans whether sufficient right-of-way would exist for the highway to be widened in the future along the project's frontage. At a minimum, the project should dedicate to Caltrans a sufficient amount of land along its frontage to accommodate one-half of the highway's ultimate right-of-way (as determined by Caltrans), as well as the planned construction of a portion of the Sonoma Valley Trail. This recommendation is reflected in MM TRANS-2b.

Sight Distance

At driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting on the driveway and the driver of an approaching vehicle. Sight distances along Melita Road at the project driveway were evaluated in consideration of stopping sight distance criteria contained in the Highway Design Manual published by Caltrans. Speed surveys obtained near the project driveway indicated that the 85th percentile speed of approaching vehicles was 38 mph, so although Melita Road has a posted speed limit of 30 mph, sight distance at the private project driveway was evaluated based on a speed of 40 mph for a more conservative analysis. At 40 mph, a minimum stopping sight distance of 300 feet is needed. Based on a field review and evaluation of the project site plan showing where the new driveway would be located, it appears that sight distance exceeding

500 feet in both directions on Melita Road could be achieved if the existing overgrowth of trees and brush at the driveway is removed.

At both driveways, any plans for new landscaping or signage should ensure that plantings at the project driveway do not exceed 3 feet in height to maximize sight lines. This recommendation is reflected in MM TRANS-2c.

Melita Road Traffic Impacts

While the majority of project-generated traffic is anticipated to directly access Sonoma Highway from the project site, some project traffic is also anticipated to use the project's secondary access on Melita Road. During the scoping process for the project EIR, several residents expressed concerns about the potential for the project to adversely affect various portions of Melita Road. These sections include the segment between Sonoma Highway and Montgomery Drive, the section that includes the secondary project access between Los Alamos Drive and Sonoma Highway, and the "loop" section that exists north of Sonoma Highway and the project site, connecting at both ends to the highway. Following is an evaluation of the project's potential impacts on each of these segments.

Western Segment—Sonoma Highway to Montgomery Drive

The western segment of Melita Road currently carries approximately 860 vehicles per day. Of the three peak-hour periods analyzed (weekday AM, weekday PM, and Saturday MIDDAY), the PM peak-hour carries the highest volume of approximately 70 vehicles. In the future, the segment is projected to carry approximately 1,175 vehicles per weekday including 95 during the PM peak-hour. The posted speed limit is 25 mph. Speed samples indicate an average speed of 27 mph and an 85th percentile speed of 32 mph. The roadway is designated as a collector street in the City's General Plan.

In determining the trip distribution and routing assumptions for the Elnoka project, sample travel times between Calistoga Road and the project site were recorded both in person and using online mapping tools showing real-time traffic. In all cases, travel to the site via Sonoma Highway resulted in a 1- to 3-minute faster travel time than by using Melita Road (or in the westbound direction, Melita Road to Queen Anne Drive and the Sonoma Highway signal at Mountain Hawk Way). As a result, the analysis assigns no project-related traffic to this segment of Melita Road.

A sensitivity analysis was conducted to determine the maximum amount of project traffic that would be assigned to this segment of Melita Road if Sonoma Highway were closed or encountering severe delays. In such a circumstance, during the highest-volume PM peak-hour, approximately 81 vehicles associated with the Elnoka project could use the street. With these volumes added to those projected to be present under future conditions, the street would carry approximately 174 vehicles during the PM peak-hour, or approximately 1,740 daily trips. This is substantially below typical volumes seen on residential collectors, which are often in the range of 5,000 vehicles per day. As a result, it has been determined that even under the most unlikely condition with no project traffic using Sonoma Highway, the project would not be expected to create an adverse condition on this segment of Melita Road.

Central Segment—Los Alamos Drive to Sonoma Highway

The central segment of Melita Road includes the proposed secondary access to the Elnoka project, and is anticipated to encounter traffic growth as a result of the project. This segment currently carries approximately 2,410 vehicles per day, including 235 during the highest-volume PM peak-hour. In the future without the Elnoka project, the segment is projected to carry approximately 3,550 vehicles per weekday including 350 during the PM peak-hour. The posted speed limit is 30 mph. Speed samples indicate an average speed of 33 mph and an 85th percentile speed of 38 mph. The roadway is designated as a local street in the City's General Plan.

This segment of Melita Road west of the project driveway is anticipated to carry approximately 35 additional vehicles during the PM peak-hour that are attributable to the Elnoka project, or about 414 vehicles per weekday. Total future volumes including the project as analyzed are projected to be approximately 385 vehicles during the PM peak-hour and 3,960 vehicles per day. If the same sensitivity analysis is applied assuming no use of Sonoma Highway west of the Elnoka site, the project-related volume on the central segment of Melita Road would increase by 116 vehicles during the PM peak-hour and 1,372 vehicles per weekday. The resulting future volumes in this hypothetical circumstance would then be approximately 462 PM peak-hour vehicles and 4,900 vehicles per day.

This segment of Melita Road already carries volumes that are at the upper end of what would typically be expected on a local street, and also appears to have vehicle speeds in the 33 to 38 mph range that are higher than typical local streets. The project is anticipated to increase volumes on this segment by 15 to 18 percent. It is therefore recommended that traffic calming measures or other traffic calming elements to be specified by the City be considered on this segment to help reduce the potential for the street to be used as a cut-through route, and to help regulate vehicle speeds. The City of Santa Rosa has established criteria for the potential installation of road undulations (sometimes referred to as speed humps), and this segment would not qualify as volumes exceed 3,000 vehicles per day. Consequently, other traffic calming measures such as adding edge line striping may be more appropriate. It is recommended that the project be responsible for funding the installation of traffic calming elements as directed by the City on the central segment of Melita Road. This recommendation is reflected in MM TRANS-2d.

Eastern Segment—Loop Section North of Sonoma Highway

The eastern segment of Melita Road lies north of Sonoma Highway. The western end intersects the highway at a signalized intersection and the eastern end terminates at the highway at an unsignalized intersection with stop-controls on the Melita Road approach. The segment differs from the western and central segments of Melita Road in that there is little to no potential for the Elnoka project to add traffic volumes to the street, since any such use would require a circuitous driving route that would result in longer travel times. The project would, however, affect travel times along the highway corridor by installing (as a mitigation measure) a new traffic signal at its project entrance, adding to westbound travel times on Sonoma Highway. The potential for this added delay to potentially encourage westbound drivers on the highway to divert to Melita Road in the hopes of avoiding congestion at the Sonoma Highway/Melita Road (east) intersection was therefore evaluated.

Based on field observations and evaluation using online mapping tools with travel time data, drivers proceeding westbound on Sonoma Highway would generally be expected to encounter a 1- to 3-

minute delay if they diverted to this segment of Melita Road. However, it was noted that during the PM peak-hour, westbound drivers turning left from Sonoma Highway at the Melita Road signal may have comparable travel times by diverting to the loop section of Melita Road (at the signal, these drivers would make a southbound through movement on Melita Road instead of a westbound left-turn movement from Sonoma Highway). The project's influences on delays along westbound Sonoma Highway may therefore play a role in the use of the eastern segment of Melita Road as a diversion route.

A comparison was made to determine if the Elnoka project would change PM peak-hour delays on westbound Sonoma Highway such that drivers would be incentivized to use the eastern loop segment of Melita Road instead of remaining on Sonoma Highway and turning left at the Melita Road (east) signal. For the purposes of this analysis an additional time savings of 30 seconds or greater was assumed to be a substantial enough time saving to cause some drivers to divert. It was determined that under "plus project" conditions, the changes in delay associated with the Elnoka project (including those encountered at the project entrance's new traffic signal) would translate to a 6- to 9-second benefit for drivers diverting to the eastern segment of Melita Road prior to continuing south on Melita Road south of the highway. This level of time benefit would be imperceptible to most drivers, and unlikely to attract a meaningful amount of diversion traffic. As a result, the project is not anticipated to cause impacts to this segment of Melita Road.

It is important to distinguish that some drivers on westbound Sonoma Highway may indeed choose to use this portion of Melita Road as a bypass route, both now and in the future. The purpose of the above analysis is not to determine whether such bypass traffic may occur, but is instead to determine if the Elnoka project specifically would be expected to cause additional diversion to the route, thereby creating a potential impact. It is also noted that IM-3a requires the project to extend the length of the eastbound left-turn pocket at the Sonoma Highway/Melita Road (east) signal, better accommodating queues and potentially reducing the incentive for drivers to divert elsewhere. Similarly, IM-3b requires the project to help fund the addition of a second westbound through lane at the Sonoma Highway/Melita Road (east) signalized intersection, reducing delays on the westbound approach and the intersection overall, and potentially lessening the incentive for drivers to divert.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-2a Prior to issuance of the first grading permit, the project applicant shall provide a construction traffic control plan to the City for review and approval. A construction traffic control plan shall be prepared for all aspects of project construction, including physical improvements on the site itself, as well as any off-site traffic improvements required to be completed directly by the project applicant. The construction traffic control plan shall describe in detail the location of equipment staging areas, stockpiling/storage areas, construction worker and equipment parking areas, roadways that would be potentially affected, safe detours around the site and/or roadway construction site, as well as provide temporary traffic control (e.g., flag

person) and appropriate signage during construction-related truck hauling activities. The traffic control plan shall ensure adequate and uninterrupted access to all nearby residences throughout the construction period.

MM TRANS-2b Prior to recordation of the final map, the project applicant shall dedicate sufficient right-of-way to Caltrans or the City of Santa Rosa for the planned widening of Sonoma Highway.

MM TRANS-2c Prior to approval of the final improvements plans, the project applicant shall prepare and submit plans to the City of Santa Rosa for review and approval showing that landscaping or signage at the project driveways do not exceed three feet in height to maximize sight lines.

MM TRANS-2d Prior to issuance of the certificate of occupancy, the project applicant shall install traffic calming elements as directed by the City along Melita Drive between Sonoma Highway and Los Alamos Drive.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Emergency Access

Impact TRANS-3: The proposed project would not result in inadequate emergency access.

The project would be served by two points of vehicular access:

- Sonoma Highway: This full access point would be signalized and serve as the main entrance for the project site.
- Melita Road: This full access point would serve as a secondary entrance for the project site.

Thus, the project would provide a total of two vehicular access points to the project site from surrounding roadways. The provision of these two access points would satisfy the California Fire Code's emergency access requirements. In addition, the project does not propose off-site modifications to surrounding roadways that would have the potential to result in inadequate emergency access. Furthermore, project design of these two access points would be adequate to accommodate fire ladder truck turning radius and height clearance. As a result, impacts related to emergency access would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Alternative Transportation Policies

Impact TRANS-4: **The proposed project may conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.**

Bicycle and Pedestrian Facilities

The project site is approximately 68 acres in size, and would be developed with a network of on-site roadways with sidewalks that would accommodate those walking or biking between their residences and on-site services, as well as walking or biking for exercise and recreation. Sidewalk connections to Sonoma Highway and Melita Road, including to a new bus stop at the project intersection on Sonoma Highway, would be provided along the project's roadways.

The area surrounding the project site is generally rural in nature, primarily composed of a mix of rural residential and passive agricultural land. There are no schools in the project vicinity, and few school-aged children are anticipated to live within the proposed project. Other than a gas station at Melita Road (east), the nearest retail and service opportunities for project residents would be in the Oakmont retirement community development approximately 1.5 miles to the east, which is expected to be beyond the comfortable walking distance for project residents. The proposed project would also include a shuttle service to transport residents to shopping, services, and appointments, reducing reliance on not only private auto use but also the need for non-drivers to walk or bicycle lengthy distances.

In the future, the planned Sonoma Valley Trail will traverse the project frontage, creating a walking and biking facility that project residents and employees can use while also serving regional walking and biking users. The project site plan, Exhibit 2-9, depicts a bike trail along its Sonoma Highway frontage, iv reflecting the alternative alignment depicted in the 2016 Sonoma Valley Trail Feasibility Study. The dimensions of the trail are unclear, though to be consistent with the trail feasibility study, the paved width of the trail should be 12 feet with a minimum 5-foot buffer from Sonoma Highway. Implementation of Impact TRANS-4a would ensure consistency.

With respect to the project's Melita Road frontage, there are generally no existing sidewalks along the street in the vicinity. Melita Road is also identified in the City's General Plan as a "Scenic Road" on which the scenic and rural character of the roadway is to be preserved. General Plan Policy T-G-9 also indicates that curbs and gutters (which would typically be constructed with sidewalks) should generally be avoided on designated scenic roads. Given the scenic roads designation and lack of anticipated pedestrian demand generated on Melita Road as a result of the project, the lack of a sidewalk on the project frontage of Melita Road is considered acceptable.

Existing and planned bicycle facilities depicted in the City's *Bicycle and Pedestrian Master Plan Update 2018* include future bicycle lanes on Sonoma Highway. Sonoma Highway currently includes 8-foot shoulders in the vicinity of the project site and along the project frontage that could be converted to bike lanes as part of a larger-scale bike lane project. The project would not preclude implementation of these future bike lanes, and the combination of existing and planned bike facilities in the vicinity of the project (including the Sonoma Valley Trail) would be expected to provide adequate access for bicyclists.

The City of Santa Rosa *Bicycle and Pedestrian Master Plan Update 2018* also includes a “study” walking and bicycling path through the project site, referred to as the Channel Trail, connecting Sonoma Highway to Channel Drive and Trione-Annadel State Park. The 2018 Bicycle and Pedestrian Master Plan notes that “study” segments are those locations that need further study to determine the feasibility of bicycling or walking facilities, or that reflect a preferred facility that has been identified but needs further study or outreach to develop a detailed design. The project as proposed includes construction of a Class II bicycle and pedestrian trail along the Sonoma Highway frontage, but no publicly-accessible trail or pathway connections are proposed through the site.

In summary, with the implementation of mitigation, the project would generally be consistent with the identified need for planned bicycle facilities as depicted in the City’s Bicycle and Pedestrian Master Plan and to the Sonoma Valley Trail. Through analysis provided in the Trail Feasibility Study to determine feasible locations, the project has fulfilled Bicycle and Pedestrian Master Plan study requirements. Therefore, impacts related to consistency with adopted bicycle and pedestrian facilities would be less than significant with the implementation of mitigation.

Transit

The project would include provision of a dedicated shuttle service for project residents, reducing reliance on public transportation or travel by private automobile. Some project residents would still be expected to use the Sonoma County Transit routes that run along Sonoma Highway, however, as would some employees and visitors. The project site plans show a new bus pullout at the project’s Sonoma Highway intersection, which would serve eastbound buses. The bus stop serving westbound routes is on the opposite side of the highway, approximately 220 feet east of the project site. Pedestrians attempting to cross Sonoma Highway to access the westbound bus stop currently have no marked facilities or safety accommodations, though with implementation of a new traffic signal at the project access (described in Identified Improvement (IM) -1), the stop could be more safely accessed. Once the signal is installed, the existing westbound bus stop should be relocated adjacent to the signal in order to improve pedestrian accessibility to transit. The configuration and amenities provided at both the eastbound and westbound bus stops should be specified by Sonoma County Transit. This recommendation is reflected in MM TRANS-4b.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

- MM TRANS-4a** The project applicant shall construct, as part of the project, a segment of the Sonoma Valley Trail along the project’s Sonoma Highway frontage, consistent with the dimensions and standards set forth by Sonoma County Regional Parks in the Sonoma Valley Trail Feasibility Study.
- MM TRANS-4b** The project applicant shall relocate the existing westbound bus stop near the project site to be adjacent to the new traffic signal required by IM-1, and shall configure both the eastbound and westbound bus stops in accordance with criteria established by Sonoma County Transit.

Level of Significance After Mitigation

Less than significant impact.

3.14.5 - Level of Service Analysis (provided for information purposes only)

The following analysis of intersection level of service under various project conditions is provided for informational purposes only. The analysis will inform the creation of conditions of approval for the project, to ensure consistency with the General Plan.

Existing Plus Project Traffic

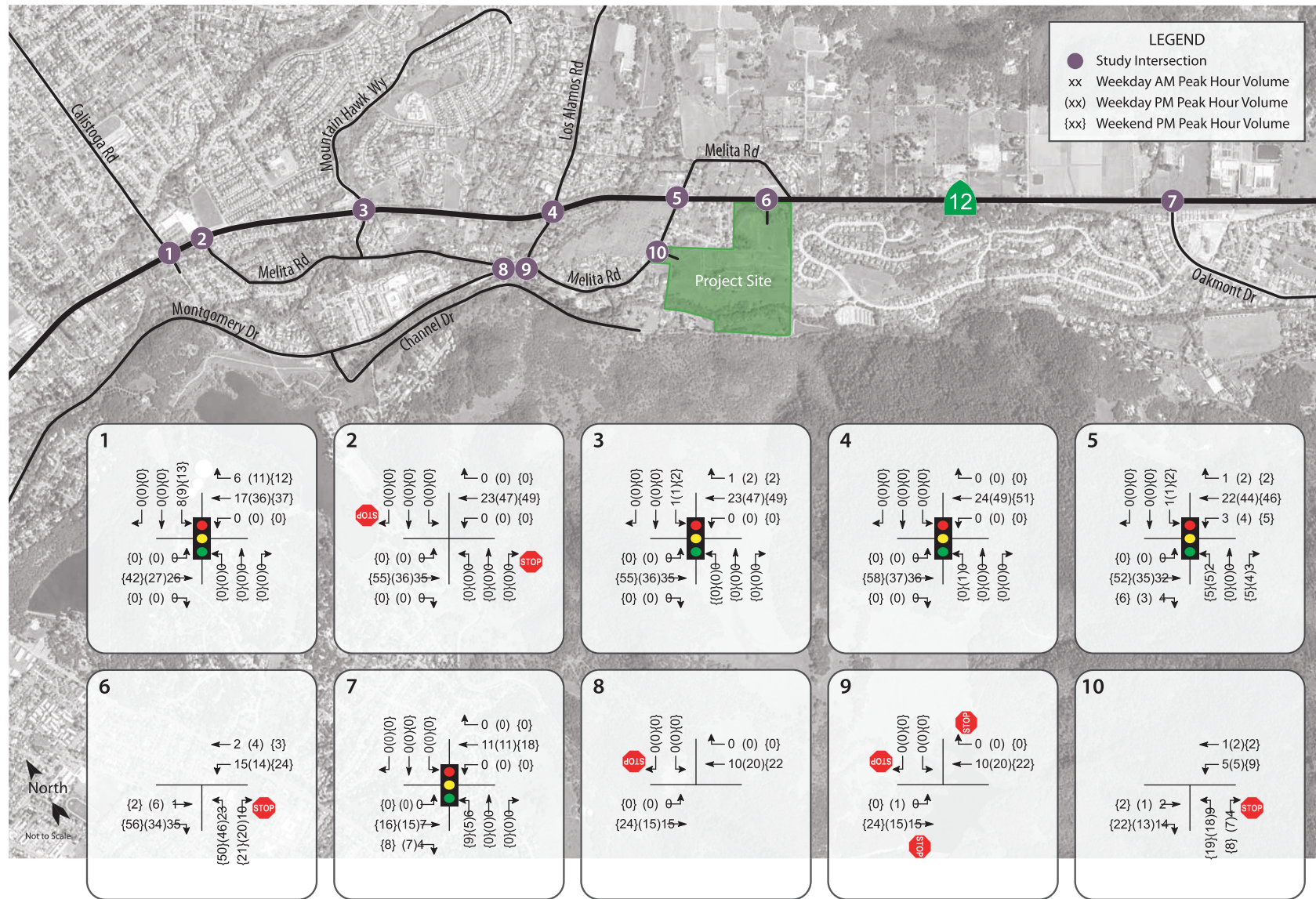
Intersection Operations

Existing Plus Project intersection traffic operations were analyzed using projected Existing Plus Project traffic volumes, as shown in Table 3.14-11 and based on traffic volumes and lane configurations presented in Exhibit 3.14-2 and Exhibit 3.14-4.

Table 3.14-11: Existing and Existing Plus Project Peak-hour Intersection Levels of Service

Study Intersection Approach	Existing Conditions			Existing Plus Project		
	AM Peak-hour	PM Peak-hour	Midday Peak-hour	AM Peak-hour	PM Peak-hour	Midday Peak-hour
1. Sonoma Highway/Calistoga Road	43.6/D	37.1/D	26.4/C	47.1/D	41.4/D	28.1/C
2. Sonoma Highway/Melita Road (west)	0.1/A	0.2/A	0.2/A	0.1/A	0.2/A	0.2/A
<i>Northbound (Melita Road) Approach</i>	<i>12.0/B</i>	<i>13.2/B</i>	<i>12.4/B</i>	<i>12.2/B</i>	<i>13.4/B</i>	<i>12.7/B</i>
3. Sonoma Highway/Mountain Hawk Drive	14.2/B	13.5/B	12.6/B	14.3/B	13.9/B	12.8/B
4. Sonoma Highway/Los Alamos Road	14.0/B	14.8/B	12.3/B	14.1/B	15.0/B	12.5/B
5. Sonoma Highway/Melita Road (east)	16.4/B	25.7/C	18.4/B	17.5/B	30.5/C	20.5/C
6. Sonoma Highway/Project Access	—	—	—	1.0/A	3.2/A	1.3/A
<i>Northbound (Project) Approach</i>	—	—	—	51.0/F¹	102.8/F¹	33.3/D
<i>With IM-1 : Signalize</i>	—	—	—	6.2/A	8.0/A	8.3/A
7. Sonoma Highway/Oakmont Drive	18.1/B	32.2/C	20.7/C	18.9/B	34.5/C	22.7/C
8. Melita Road/Montgomery Drive	1.5/A	1.0/A	0.5/A	1.5/A	1.0/A	0.5/A
<i>Southbound (Melita Road) Approach</i>	<i>11.2/B</i>	<i>11.0/B</i>	<i>12.5/B</i>	<i>11.4/B</i>	<i>11.2/B</i>	<i>13.1/B</i>
9. Melita Road/Los Alamos Road	9.9/A	11.2/B	10.3/B	10.2/B	11.7/B	10.7/B
10. Melita Road/Project Access	—	—	—	0.8/A	1.0/A	1.3/A
<i>Westbound (Project) Approach</i>	—	—	—	9.6/A	10.1/B	10.1/B
Notes: ¹ Signal warrant met so operation considered deficient Results are shown as Delay/LOS; Delay is measured in average seconds per vehicle LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in <i>italics</i> Bold text = deficient operation; Shaded cells = conditions with recommended improvements Source: W-Trans 2019.						

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Source: W-Trans, 2019



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Upon the addition of project-related traffic to the Existing volumes, the study intersections are expected to operate acceptably, with the exception of the project access on Sonoma Highway, which is projected to encounter LOS F delays on the northbound approach during the AM and PM peak-hours.

A signal warrant analysis was completed to determine if a traffic signal would be an appropriate mitigation at the Sonoma Highway/Project Access intersection. It was determined that Warrant 2 from the California Manual on Uniform Traffic Control Devices (CA-MUTCD), the Four-Hour Vehicular Volume Warrant, would be met under Existing Plus Project Conditions. It is therefore recommended that the project applicant be responsible for installing a signal at the intersection, including obtaining all necessary approvals from Caltrans. The City of Santa Rosa has received feedback from Caltrans that this is a viable mitigation since signal warrants are met. This recommendation is reflected in Improvement Measure (IM) IM-1, which will be incorporated as a condition of approval of the project. As shown in Table 3.14-11, with the implementation of IM-1, the Sonoma Highway/Project Access intersection would operate acceptably at LOS A during all peak hours, consistent with the requirements of the General Plan.

Roadway Segment Operations

Under Existing Plus Project volumes, the Sonoma Highway roadway segment is expected to operate acceptably at LOS D or better under all of AM, PM, and Midday peak-hours, consistent with the requirements of the General Plan. These results are summarized in Table 3.14-12.

Table 3.14-12: Existing and Existing Plus Project Roadway Segment Levels of Service on Sonoma Highway

Direction	AM Peak-hour		PM Peak-hour		Saturday Midday Peak-hour	
	Existing	Existing Plus Project	Existing	Existing Plus Project	Existing	Existing Plus Project
Eastbound	38/69%/B	37/67%/B	37/67%/B	35/64%/C	37/67%/B	35/64%/C
Westbound	33/60%/C	31/53%/C	29/53%/C	27/49%/D	36/65%/C	33/60%/C
Notes: Results are shown as Speed/% FFS/LOS; speed is measured in miles per hour. % FFS = percent of free-flow speed LOS = Level of Service Source: W-Trans 2020.						

Improvement Measures

IM-1 Subject to Caltrans approval, the project applicant shall fully fund and install a traffic signal at the project access on Sonoma Highway. This traffic signal shall be operational prior to the issuance of the certificate of occupancy.

Baseline Plus Project Traffic Conditions

The Baseline Plus Project Scenario reflects conditions with full buildout of the project added to the baseline traffic volumes. Baseline traffic volumes are shown in Exhibit 3.14-5, while project-generated traffic volumes are shown in Exhibit 3.14-4.

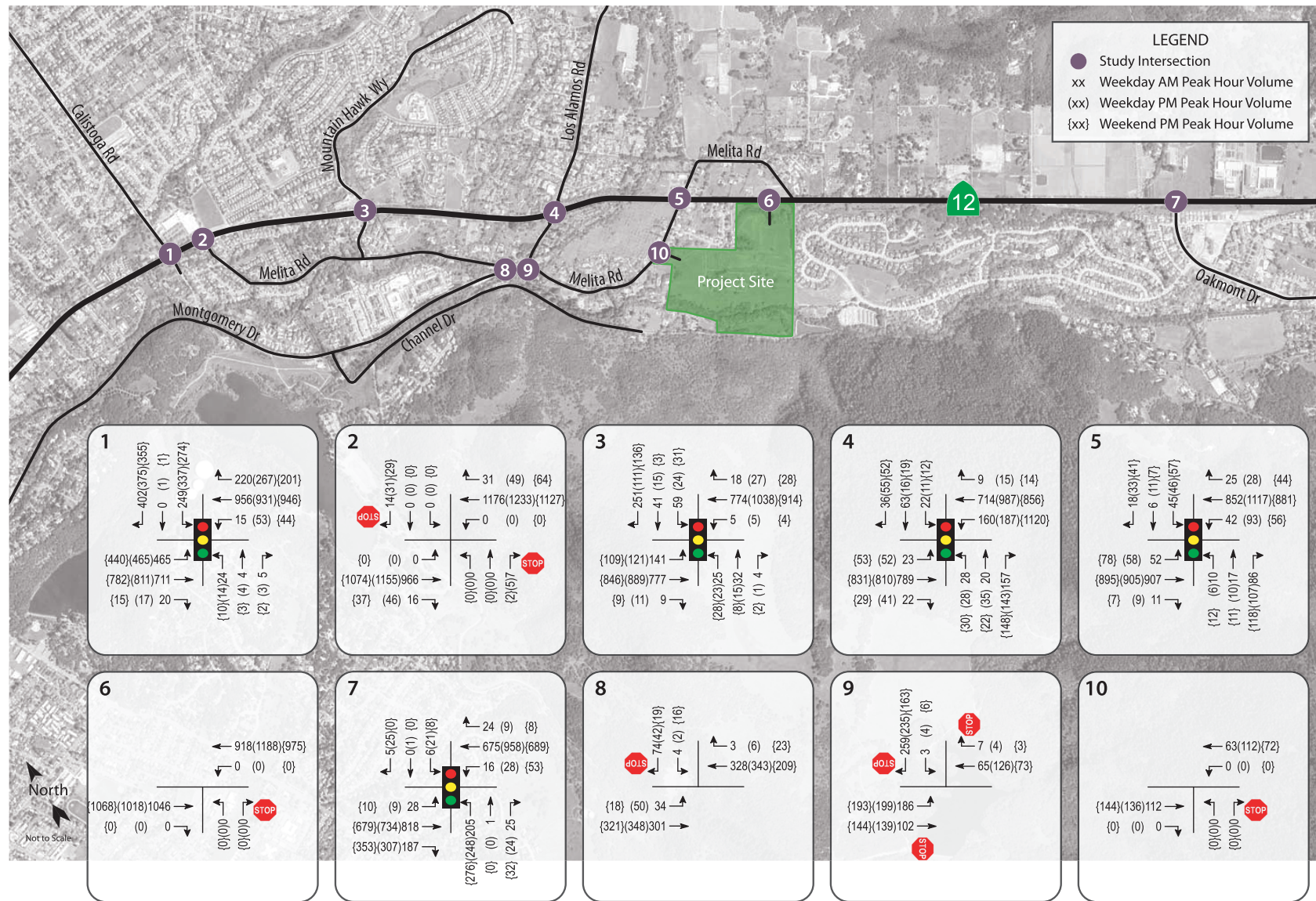
Baseline Traffic Scenario

Baseline operating conditions were assessed to reflect the addition of traffic associated with approved projects in both the City of Santa Rosa and the County of Sonoma that are anticipated to be constructed and/or become operational in the study area in the next two to three years. In the City of Santa Rosa, projects used in the Baseline scenario were obtained from the City's "Permit Santa Rosa" portal (<http://santarosa.civicinsight.com>) and the City of Santa Rosa June 2017 Pending Development Report (<https://srcity.org/354/Planning-Division>) on July 14, 2017, and confirmed with City Staff in August 2017. The following City projects are included in the Baseline scenario.

- Acacia East—7 single-family homes at 660 Acacia Lane
- Saraceni Village—8 single-family homes at 705 Acacia Lane
- Prospect Village II—14 single-family homes at 807 Acacia Lane
- Los Indios Subdivision—12 single-family homes at 225 Indian Creek Circle
- Middle Rincon Subdivision—6 single-family homes at 117 Middle Rincon Road
- Prospect Oaks—32 attached single-family homes at 4599 Sonoma Highway
- Vista Gabrielle—6 single-family homes at 5150 Sonoma Highway
- The Shops at Austin Creek—43,200 square feet of retail development at 5173 Sonoma Highway⁴
- The Montgomery Park Apartments—14 apartments at 4527 Montgomery Drive

The County of Sonoma Permit and Resource Management Department (PRMD) supplied a list of approved development in the project area on August 7, 2017. The following County projects are included in the Baseline scenario:

⁴ The Shops at Austin Creek were included as a Baseline project at the time the traffic analysis was completed in 2017 but is no longer moving forward. While the Shops at Austin Creek were conditioned by the City to add a second southbound left-turn lane at the Sonoma Highway/Calistoga intersection, this improvement was not assumed in the TIS. The TIS is based on existing conditions at this intersection and does not rely on future improvement by other development at this intersection.



Source: W-Trans, 2019



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- Annadel Vineyards—winery with 50,000 case production and tasting by appointment at 6545 Sonoma Highway
- Bordigioni Winery—winery with 60,000 case production plus tasting and events at 6687 Sonoma Highway
- Sugar Loaf Winery—winery with 125,000 case production plus tasting and events at 6705 Sonoma Highway
- Sonoma Country Inn—50-room resort hotel with 125-seat restaurant; winery with 10,000 case production and events; 11 single-family homes at 7915 and 7977 Sonoma Highway
- Kenwood Winery—expand existing winery tasting room by 3,100 square feet at 9592 Sonoma Highway
- Beltane Winery—winery with 15,000 case production at 11621 Sonoma Highway
- Ledson Winery—winery with 50,000 case production plus tasting and events at 7950 Sonoma Highway

Trip generation and distribution assumptions for the baseline projects were based on the traffic studies completed for each project, as available, or standard ITE rates and distribution assumptions based on existing traffic patterns and census data. The associated trips were then added to existing volumes in order to derive the traffic volumes used in the Baseline scenario.

Intersection Operations

Baseline Conditions

Under Baseline conditions, nine of the ten study intersections are projected to operate acceptably. The intersection at Sonoma Highway/Oakmont Drive is projected to operate unacceptably at LOS E during the PM peak-hour.

Baseline Conditions Plus Project

The Baseline Plus Project scenario is the analysis scenario in which traffic impacts associated with the project are analyzed in comparison to the baseline conditions scenario. Trips associated with the project were combined with the baseline conditions scenario volumes to establish Baseline Plus Project volumes. Table 3.14-14 shows the Baseline Conditions Scenario and Baseline Plus Project Scenario.

Table 3.14-13: Baseline and Baseline Plus Project Peak-hour Intersection Levels of Service

Study Intersection Approach	Baseline Conditions			Baseline Plus Project		
	AM Peak-hour	PM Peak-hour	MD Peak-hour	AM Peak-hour	PM Peak-hour	MD Peak-hour
1. Sonoma Highway/Calistoga Road	49.1/D	52.0/D	37.1/D	52.9/D	59.4/E	42.9/D
With IM-2: Signal optimization	—	—	—	40.0/D	47.9/D	36.5/D
2. Sonoma Highway/Melita Road (west)	0.1/A	0.2/A	0.2/A	0.1/A	0.2/A	0.2/A

Study Intersection Approach	Baseline Conditions			Baseline Plus Project		
	AM Peak-hour	PM Peak-hour	MD Peak-hour	AM Peak-hour	PM Peak-hour	MD Peak-hour
<i>Northbound (Melita Road) Approach</i>	12.3/B	13.6/B	13.0/B	12.5/B	15.4/C	13.4/B
3. Sonoma Highway/Mountain Hawk Drive	14.3/B	14.5/B	13.6/B	14.4/B	15.0/B	13.9/B
4. Sonoma Highway/Los Alamos Road	14.3/B	15.5/B	13.1/B	14.4/B	15.7/B	13.2/B
5. Sonoma Highway/Melita Road (east)	18.0/B	38.1/D	21.9/C	19.4/B	44.9/D	25.2/C
6. Sonoma Highway/Project Access	—	—	—	1.0/A	3.8/A	1.4/A
<i>Northbound (Project) Approach</i>	—	—	—	56.1/F¹	131.1/F¹	39.0/E¹
With IM-1: Signalize	—	—	—	6.7/A	9.5/A	9.5/A
7. Sonoma Highway/Oakmont Drive	33.9/C	68.7/E	42.0/D	35.9/D	73.3/E	46.2/D
8. Melita Road/Montgomery Drive	1.5/A	1.1/A	0.9/A	1.5/A	1.1/A	0.9/A
<i>Southbound (Melita Road) Approach</i>	11.3/B	11.2/B	12.0/B	11.4/B	11.4/B	12.5/B
9. Melita Road/Los Alamos Road	10.1/B	11.5/B	10.4/B	10.3/B	11.9/B	10.9/B
10. Melita Road/Project Access	—	—	—	0.8/A	1.0/A	1.2/A
<i>Westbound (Project) Approach</i>	—	—	—	9.6/A	10.2/B	10.2/B
Notes: ¹ Signal warrant met so operation considered deficient Results are shown as Delay/LOS; Delay is measured in average seconds per vehicle LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in <i>italics</i> Bold text = deficient operation; Shaded cells = conditions with recommended improvements; MD = Midday Source: W-Trans 2019.						

With project-related traffic added to Baseline volumes, seven of the ten study intersections are expected to operate acceptably. The intersection at Sonoma Highway/Calistoga Road is projected to operate at LOS E, with a 7.4-second increase in average delay attributable to the project. As in Existing Conditions, the project access intersection on Sonoma Highway is projected to operate at LOS F on the northbound approach during the AM and PM peak-hours and LOS E during the Saturday Midday peak-hour. The intersection at Sonoma Highway/Oakmont Drive is projected to continue operating unacceptably at LOS E during the PM peak-hour, though the 4.6-second increase in delay attributable to the project is less than 5.0 seconds.

As with Existing Plus Project conditions, a traffic signal would be warranted at the project access on Sonoma Highway, and should be fully funded by the project applicant. This recommendation is reflected in IM-1.

At Sonoma Highway/Calistoga Road, traffic volumes associated with the project and other near-term development would alter traffic patterns enough that the signal timing should be analyzed and re-optimized in order to improve operation. The project impact to delay at the intersection would be considered significant as it exceeds 5 seconds, so the project applicant should be responsible for funding the signal optimizing evaluation and implementation. The optimization should take place once the project begins generating traffic (at which time other approved projects will also likely be generating traffic). This recommendation is reflected in IM-2.

While this mitigation would require consultation with and approval from Caltrans, it is routine in nature and typical of changes made to signal timing in response to changes in traffic flow over time, so is considered to be achievable. With improved timing, operation is anticipated to improve to LOS D during all peak periods, offsetting the additional delay created by the project.

Roadway Segment Operations

Upon the addition of project-related traffic to Baseline volumes, the Sonoma Highway roadway segment is expected to operate acceptably at LOS D or better. The results are summarized in Table 3.14-14

Table 3.14-14: Baseline and Baseline Plus Project Roadway Segment Levels of Service on Sonoma Highway

Direction	AM Peak-hour		PM Peak-hour		Saturday Midday Peak-hour	
	Baseline	Baseline Plus Project	Baseline	Baseline Plus Project	Baseline	Baseline Plus Project
Eastbound	37/67%/B	36/65%/C	33/60%/C	33/60%/C	36/65%/C	33/60%/C
Westbound	31/56%/C	31/56%/C	25/45%/D	23/42%/D	32/58%/C	29/53%/C
Notes: Results are shown as Speed/%FFS/LOS; speed is measured in miles per hour % FFS = percent of free-flow speed; LOS = Level of Service Source: W-Trans 2019.						

Identified Improvement Measures

IM-2 Prior to the issuance of the certificate of occupancy, the project applicant shall coordinate with Caltrans to optimize the signal operation at Sonoma Highway/Calistoga Road.

Future Plus Project Traffic

Future Conditions

Caltrans Highway 12 [Sonoma Highway] Transportation Concept Report

The State Route 12 (West) Transportation Concept Report (TCR), Caltrans, 2014, provides an evaluation of the current and projected operating conditions along Sonoma Highway and a vision for future development on the highway. The TCR was developed with goals of increasing safety, improving mobility, providing stewardship, and meeting community and environmental needs along

the corridor. Unlike Caltrans planning documents of the past that placed a heavy emphasis on the need for vehicular capacity, this plan has a strong multimodal focus and recognizes the different community and “place” types that the highway traverses.

The route concept and strategy for the highway through Sonoma Valley, including in the vicinity of the project site, is to “maximize Smart Mobility benefits over vehicle throughput,” pursuing the planned Sonoma Valley Trail parallel to the highway as well as future enhanced transit service. The report recommends that the corridor be maintained as a scenic highway. With respect to traffic capacity, the plan indicates that Sonoma Highway along with Arnold Drive are expected to provide sufficient capacity into the future.

Future Projections and Traffic Operation

Future traffic volumes for conditions without the Elnoka project were based on data contained in the SCTA SCTM\10 travel demand model. The year 2040 projections include traffic growth from future development within Santa Rosa and the region, and assume buildout of the City’s and County’s General Plans. The model includes a “financially constrained” set of future transportation improvements, meaning only transportation projects with identified funding sources are assumed to be constructed. Within the traffic analysis study area, no roadway expansion or widening projects are included in the model for Sonoma Highway.

Segment volumes from the model were translated to turning movement volumes at intersections using existing traffic counts and the “Furness” procedure. This procedure is an iterative process that employs existing turn movement data, model-obtained baseline link volumes, and model-obtained future link volumes to project likely future turning movement volumes at intersections. The incremental increase in intersection turning movements projected by the model was then added to the volumes developed for the baseline scenario described above. Adding the incremental growth to baseline rather than existing volumes is a somewhat conservative approach, though ensures that traffic associated with pending development projects (many of which are wineries with varying operational characteristics) are clearly reflected in the applied future volumes.

The SCTA travel demand model does not include weekend projections. In order to estimate future Saturday Midday peak-hour volumes, growth factors were determined for each intersection by comparing the model’s projected future PM peak-hour volumes to the existing PM peak-hour volumes. The resulting factors were then applied to baseline volumes to mimic the conservative approach used in the weekday AM and PM peak-hour scenarios.

Under the projected Future volumes, seven of the 10 study intersections are expected to operate acceptably. The intersection at Sonoma Highway/Calistoga Road is projected to operate unacceptably at LOS F during the AM peak-hour and LOS E during the PM peak-hour; the signalized intersection at Sonoma Highway/Melita Road (east) is projected to operate unacceptably at LOS E during the PM peak-hour; and the intersection at Sonoma Highway/Oakmont Drive is projected to operate unacceptably at LOS E during the AM peak-hour and LOS F during the PM peak-hour.

Intersection Operations

Future With Project Conditions

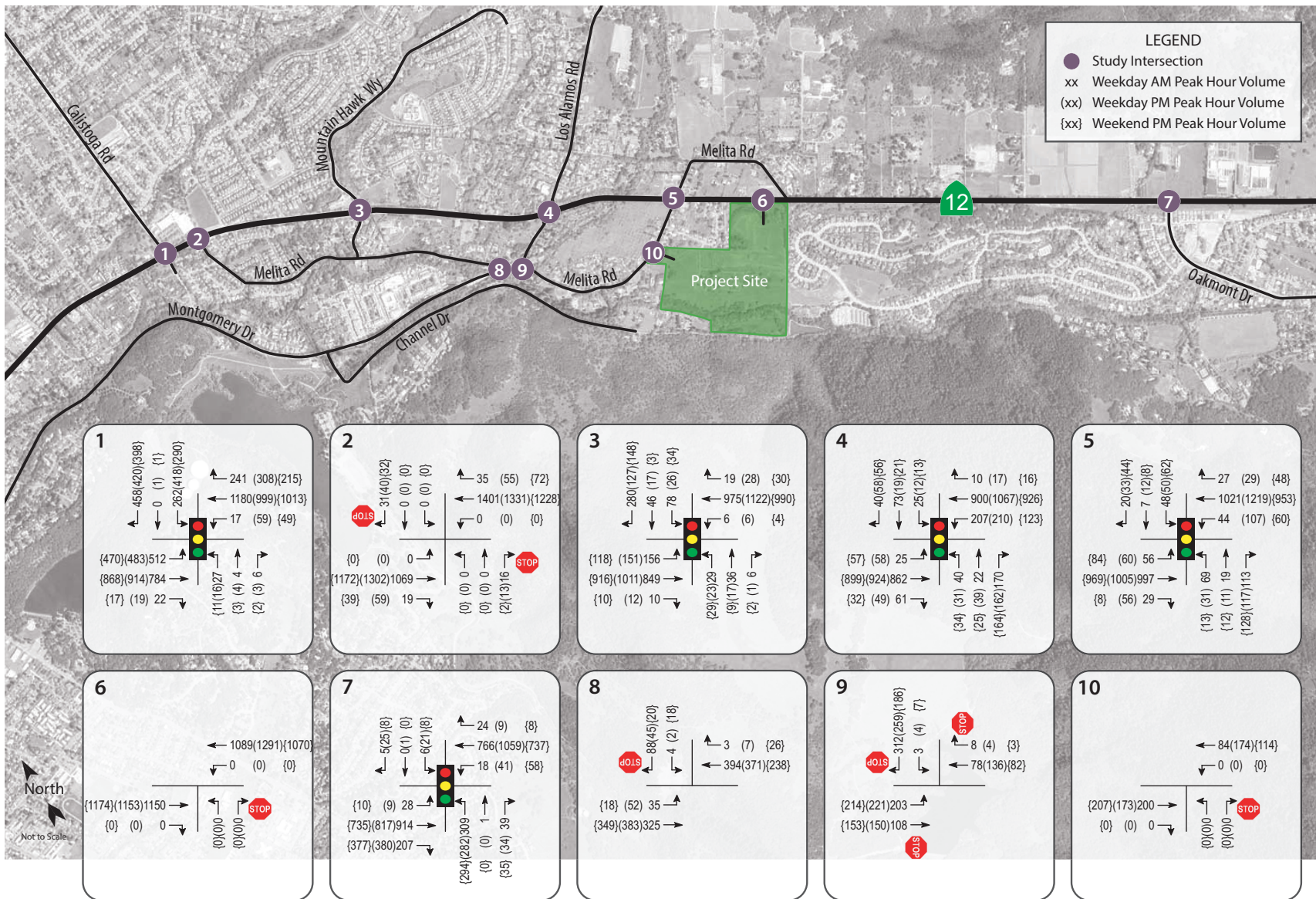
For this scenario, the trips that the project is expected to generate were added to the 2040 Future volumes at General Plan 2035 buildout and used to evaluate operation of the study intersections, arterials and roadway segments. The results are shown in Table 3.14-15. Future traffic volumes are shown in Exhibit 3.14-6, while project-generated traffic volumes are shown in Exhibit 3.14-4.

Table 3.14-15: Future and Future Plus Project Peak-hour Intersection Levels of Service

Study Intersection Approach	Future Conditions			Future Plus Project		
	AM Peak-hour	PM Peak-hour	MD Peak-hour	AM Peak-hour	PM Peak-hour	MD Peak-hour
1. Sonoma Highway/Calistoga Road	81.0/F	69.0/E	48.7/D	85.0/F	76.8/E	56.5/E
With MM TRANS-2: Signal optimization, and TRANS-3a: WB right-turn lane	—	—	—	45.6/D	43.8/D	34.5/C
2. Sonoma Highway/Melita Road (west)	0.3/A	0.3/A	0.2/A	0.3/A	0.3/A	0.2/A
<i>Northbound (Melita Road) Approach</i>	<i>13.0/B</i>	<i>14.7/B</i>	<i>13.7/B</i>	<i>13.2/B</i>	<i>15.0/C</i>	<i>14.1/B</i>
3. Sonoma Highway/Mountain Hawk Drive	15.7/B	15.7/B	14.5/B	15.8/B	16.3/B	15.0/B
4. Sonoma Highway/Los Alamos Road	30.6/C	17.1/B	14.1/B	32.0/C	17.4/B	14.4/B
5. Sonoma Highway/Melita Road (east)	34.6/C	57.3/E	27.2/C	40.9/D	67.4/E	33.4/C
With widening (infeasible)	—	—	—	13.7/B	14.9/B	14.1/B
With Alt MM TRANS-3b: Second WB thru lane and NB right-turn pocket	—	—	—	26.4/C	26.0/C	22.2/C
6. Sonoma Highway/Project Access	—	—	—	1.2/A	4.4/A	2.2/A
<i>Northbound (Project) Approach</i>	—	—	—	74.8/F¹	166.6/F¹	70.3/F¹
With IM-1: Signalize	—	—	—	8.3/A	11.8/B	13.2/B
7. Sonoma Highway/Oakmont Drive	72.9/E	103.0/F	44.5/D	77.0/E	108.8/F	49.3/D
With widening (infeasible)	—	—	—	23.2/C	27.3/C	24.2/C
With Alt MM TRANS-3c: EB right-turn overlap and pedestrian crossing relocation	—	—	—	56.5/E	78.9/E	42.0/D
8. Melita Road/Montgomery Drive	1.7/A	1.1/A	0.9/A	1.7/A	1.1/A	0.9/A
<i>Southbound (Melita Road) Approach</i>	<i>12.2/B</i>	<i>11.6/B</i>	<i>12.8/B</i>	<i>12.3/B</i>	<i>11.7/B</i>	<i>13.3/B</i>
9. Melita Road/Los Alamos Road	11.0/B	12.7/B	11.2/B	11.2/B	13.5/B	11.9/B
10. Melita Road/Project Access	—	—	—	0.5/A	0.8/A	1.0/A
<i>Westbound (Project) Approach</i>	—	—	—	<i>10.5/B</i>	<i>11.0/B</i>	<i>11.1/B</i>

Study Intersection <i>Approach</i>	Future Conditions			Future Plus Project		
	AM Peak-hour	PM Peak-hour	MD Peak-hour	AM Peak-hour	PM Peak-hour	MD Peak-hour
Notes: ¹ Signal warrant met so operation considered deficient Results are shown as Delay/LOS; Delay is measured in average seconds per vehicle; LOS = Level of Service Results for minor approaches to two-way stop-controlled intersections are indicated in <i>italics</i> Bold text = deficient operation; Shaded cells = conditions with recommended improvements WB = Westbound; NB = Northbound; MD = Midday; EB=Eastbound Source: W-Trans 2019.						

As shown in Table 3.14-15, upon the addition of project-generated traffic to the anticipated Future volumes, six of the ten study intersections are expected to operate acceptably. The intersection at Sonoma Highway/Calistoga Road is projected to operate unacceptably at LOS E or F during all three peak-hours, with increases in delay attributable to the project of 4.0 to 7.8 seconds. The signalized intersection at Sonoma Highway/Melita Road (east) is projected to continue operating unacceptably at LOS E during the PM peak-hour, with an increase in delay of 10.1 seconds attributable to the project. The project access intersection on Sonoma Highway would operate with delays indicative of LOS F conditions on the northbound approach during all three peak periods (AM, Midday, and PM). The intersection at Sonoma Highway/Oakmont Drive is expected to continue operating unacceptably at LOS E during the AM peak-hour and LOS F during the PM peak-hour, with the increase in delay attributable to the project being 5.8 seconds during the PM peak-hour, which is considered significant.



Source: W-Trans, 2017



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A traffic signal would continue to be warranted at the project access on Sonoma Highway. This recommendation is reflected in IM-1.

At Sonoma Highway/Calistoga Road, additional measures will need to be taken to achieve LOS D operation in the future both without and with the project. This recommendation is reflected in IM-2. Under Future Plus Project conditions, the addition of a 100-foot-long westbound right-turn lane with an overlap signal phase would result in acceptable operation. Because the project impact to delay at the intersection exceeds 5 seconds, the project applicant should contribute a proportional share of the cost to construct the right-turn lane and right-turn overlap signal phase. With the implementation of the right-turn lane and right-turn overlap signal phase, future operation is anticipated to improve to LOS D during the AM and PM peak periods, and LOS C during the Saturday Midday peak period, offsetting the additional delay created by the project. The City of Santa Rosa intends to add this project to the Capital Improvement Program (CIP), serving as lead agency and coordinating with Caltrans to ensure its future implementation. This allows the City to collect a proportional share of the cost from the project applicant as well as other future development projects, using the proceeds to help fund the design, construction, and implementation of the improvements. This recommendation is reflected in IM-3a.

The Sonoma Highway/Melita Road (east) signalized intersection is projected to operate unacceptably at LOS E in the future both without and with the project. The approximately 10-second increase in average intersection delay associated with the project could be improved to an acceptable LOS B by widening Sonoma Highway to include two through lanes in each direction, as envisioned in the City of Santa Rosa General Plan. The General Plan indicates that the highway should ultimately be widened between the signal at Melita Road and Pythian Road (east of Oakmont Drive). However, because of the complexity and cost of the widening project and its lack of identified funding, it is very unlikely to be implemented within the timeframe of the Future Conditions analyses presented in this report. As a result, the widening is considered infeasible.

An alternative would be to widen westbound Sonoma Highway in advance of the signalized intersection by at least 400 feet to provide a second westbound through lane, and add a 50-foot right-turn pocket on the northbound approach. Regarding the dual westbound through lanes, the highway already includes dual westbound receiving lanes on the opposite (west) side of the intersection and would require no further widening on that side of the intersection. This identified improvement would not only improve intersection operation, but would also improve operation on the Sonoma Highway corridor as discussed below. With implementation of this identified improvement, the signal would operate more efficiently, and acceptable LOS C operation would be expected during all three analyzed peak-hours. This recommendation is reflected in IM-3b .

At the Sonoma Highway/Oakmont Drive intersection, operation could be improved by widening Sonoma Highway to include two through lanes in each direction as envisioned in the City of Santa Rosa General Plan. However, as noted above, this option lacks funding and is very unlikely to be implemented within the timeframe of the Future Conditions analyses presented in this report, so is therefore considered to be infeasible.

An alternative would add an eastbound right-turn overlap signal phase and relocate the Sonoma Highway pedestrian crossing from the west side of the intersection to the east side of the intersection. With these modifications, the intersection would be expected to operate acceptably during the Saturday Midday peak-hour, but would still operate unacceptably at LOS E during the AM and PM peak-hours (albeit much improved from “no project” conditions). Because the project would increase delay by more than 5 seconds, the project applicant should be responsible for funding the intersection modifications. The resulting operation would be better than the “no project” condition. The City of Santa Rosa has received feedback from Caltrans that this appears to be a viable mitigation, so it is considered to be implementable. This recommendation is reflected in IM-3c.

Roadway Segment Operations

With project-generated traffic added to the anticipated Future volumes, the Sonoma Highway roadway segment is projected to operate unacceptably at LOS E in the westbound direction during the AM and PM peak-hours. The change in average corridor speed attributable to the project would be 1 mph during both affected peaks. The Future Plus Project operating conditions are summarized in Table 3.14-16.

Table 3.14-16: Future and Future Plus Project Roadway Segment Levels of Service on Sonoma Highway

Intersection	AM Peak-hour		PM Peak-hour		Saturday Midday Peak-hour	
	Future	Future Plus Project	Future	Future Plus Project	Future	Future Plus Project
Eastbound	31/56% C	29/53% C	28/51% C	28/51% C	33/60% C	32/58% C
Westbound	23/42% D	22/40% E	22/40% E	21/38% E	26/47% D	26/47% D
With Widened Highway Only (infeasible)						
Eastbound	—	38/69% B	—	36/65% C	—	38/69% B
Westbound	—	32/58% C	—	33/60% C	—	35/64% C
With Alternative Intersection Improvements Only: (IM-1, IM-2, IM-3a, IM-3b, and IM-3c)						
Eastbound	—	31/56% C	—	28/51% C	—	30/55% C
Westbound	—	31/56% C	—	27/49% D	—	33/60% C
Notes: Results are shown as Speed/%FFS/LOS; speed is measured in miles per hour; %FFS = percent of free-flow speed LOS = Level of Service; Shaded cells = conditions with recommended improvements Source: W-Trans 2017.						

The level of service along the Sonoma Highway roadway segment would be expected to be LOS C or better if the highway were widened in the future to include two through lanes in each direction to Pythian Road, per the City’s General Plan. If only the intersection-related improvements identified in the Future Plus Project intersection analysis are completed, however, operation would still be expected to be an acceptable LOS D or better. The intersection improvements should either be

constructed by the project applicant, or in the case of IM-3a (at Calistoga Road) and IM-3c (at Melita Road east) the project applicant should pay a proportionate share of the costs.

Identified Improvement Measures

- IM-3a** Prior to issuance of building permits, the project applicant shall provide proportional share fees equal to 18.5 percent of improvement costs (See Table 1, Rough Proportionality Study, Appendix E of the Traffic Impact Study) to the City of Santa Rosa for improvements to the intersection of Sonoma Highway/Calistoga Road intersection. The improvements shall consist of the addition of a 100-foot long westbound right-turn lane with an overlap signal phase. The City shall implement the improvements when monitoring determines the intersection is approaching unacceptable operations.
- IM-3b** Prior to issuance of building permits, the project applicant shall provide proportional share fees equal to 24.2 percent of improvement costs (See Table 1, Rough Proportionality Study, Appendix E of the Traffic Impact Study) to the City of Santa Rosa for improvements to the intersection of Sonoma Highway/Melita Road (east). The improvements would consist of widening westbound Sonoma Highway in advance of the signalized intersection by at least 400 feet to provide a second westbound through lane, and adding a 50-foot right-turn pocket on the northbound approach. The City shall implement the improvements when monitoring determines the intersection is approaching unacceptable operations.
- IM-3c** Prior to the issuance of the certificate of occupancy, the project applicant shall implement improvements to the intersection of Sonoma Highway/Oakmont Drive. The improvements shall consist of adding an eastbound right-turn overlap signal phase and relocating the Sonoma Highway pedestrian crossing from the west side of the intersection to the east side of the intersection.

Queuing

Traffic queuing occurs as drivers wait to proceed through an intersection. Adverse impacts can occur if queuing in turn pockets exceeds storage and spills into through travel lanes, or causes traffic to queue through an upstream intersection. The project-specific traffic study calculated the projected 95th percentile queues in left-turn pockets at the signalized study intersections under each project scenario: Existing Plus Project, Baseline Plus Project, and Future Plus Project conditions. The data was determined using the SIMTRAFFIC application of Synchro, and averaging the results of 10 simulation runs.

Table 3.14-17 provides a summary of the predicted 95th percentile queue lengths for all Plus Project scenarios.

Table 3.14-17: 95th Percentile Left-Turn Queues

Study Intersection Movement	Storage	Existing Plus Project			Baseline Plus Project			Future Plus Project		
		AM	PM	WMD	AM	PM	WMD	AM	PM	WMD
1. Sonoma Highway/Calistoga Road										
SB left-turn/through	260	221	280	196	216	327	249	273	365	290
SB right-turn	730	176	249	160	193	311	174	289	540	296
EB left-turn	345	181	182	175	199	240	193	242	220	227
WB left-turn	150	119	140	160	110	150	169	117	160	197
With Mitigation Measure TRANS-4a										
SB left-turn/through ¹	260	221	280	196	247	354	292 ¹	250	364 ¹	278 ¹
SB right-turn	730	176	249	160	202	403	272	255	511	270
EB left-turn	345	181	182	175	252	258	226	252	272	247
WB left-turn (extended to 175 ft)	175	119	140	160	86	150	150	58	150	164
3. Sonoma Highway/Mountain Hawk Drive										
NB left-turn	70	45	32	30	49	39	53	54	42	51
SB left-turn	90	70	47	49	90	53	56	109	55	54
SB through/right-turn	590	136	80	66	143	86	66	159	92	64
EB left-turn	300	69	54	42	65	60	49	91	81	81
WB left-turn	100	14	15	19	13	19	25	44	12	13
4. Sonoma Highway/Los Alamos Road										
NB left-turn/through	110	46	65	50	42	68	63	64	66	64
SB left-turn/through	105	80	40	39	88	39	43	89	48	47
EB left-turn	325	44	63	61	43	72	64	47	122	73
WB left-turn	280	151	160	124	145	142	109	182	160	123
5. Sonoma Highway/Melita Road (east)										
SB left-turn/through	135	68	93	96	78	90	106	87	82	103
EB left-turn	150	138	159	147	134	156	188	206	209	232
WB left-turn ²	50	84 ²	119 ²	83 ²	88 ²	109 ²	95 ²	89 ²	106 ²	102 ²
With Mitigation Measure TRANS-4b										
SB left-turn/through	135	68	93	96	79	86	123	89	96	100
EB left-turn (extended to 200 feet)	200	138	159	147	189	181	195	173	180	195
WB left-turn ²	50	84 ²	119 ²	83 ²	89 ²	116 ²	104 ²	78 ²	124 ²	100 ²
6. Sonoma Highway/Project Access										
WB left-turn	100	33	27	39	29	58	36	27	56	56

Study Intersection Movement	Storage	Existing Plus Project			Baseline Plus Project			Future Plus Project			
		AM	PM	WMD	AM	PM	WMD	AM	PM	WMD	
7. Sonoma Highway/Oakmont Drive											
NB left-turn/through	300	211	215	209	216	264	278	333 ³	302 ³	296	
EB left-turn	200	17	82	9	55	31	62	166	29	28	
WB left-turn	200	35	119	79	83	138	134	57	152	153	
With Mitigation Measure TRANS-3c											
NB left-turn/through	300	—	—	—	—	—	—	336 ³	387 ³	305 ³	
EB left-turn	200	—	—	—	—	—	—	116	22	83	
WB left-turn	200	—	—	—	—	—	—	71	149	135	
Notes:											
¹ Queues exceeding storage considered acceptable since queue spillover into adjacent right-turn lane is not projected to create adverse conditions											
² Queues exceeding striped left-turn pocket length considered acceptable since they would extend into an existing two-way left-turn lane and not block through traffic											
³ Queue not considered an adverse impact since side street (Pine Valley Dr) restricted to right-turns and terminus of Oakmont Drive is just upstream											
95 th percentile queue based on the average of 10 SIMTRAFFIC runs; all distances are measured in feet (ft)											
WMD = Weekend Midday; NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound											
Bold text = queue length exceeds available storage; Shaded cells = conditions with recommended improvements											
Source: W-Trans 2019.											

The 95th percentile left-turn queues are expected to exceed the existing available storage on one or more movements at the following study intersections.

At Sonoma Highway/Calistoga Road, southbound left-turn/through lane queues are projected to exceed storage under Baseline Plus Project and Future Plus Project conditions. Queue spillover into the adjacent right-turn lane (which is the southbound through lane on Calistoga Road north of the St. Francis Shopping Center) is projected to extend no greater than 540 feet, however, not reaching the next intersection to the north (Marit Drive). Because nearly all southbound traffic on Calistoga Road turns left or right at Sonoma Highway and is therefore moving at relatively low speeds, the projected queuing is not anticipated to create an adverse operational or safety issue. Queues are also projected to exceed the available storage in the westbound left-turn pocket under all scenarios. Given the high through volumes and speeds on westbound Sonoma Highway, queue spillover from the left-turn pocket could create an adverse condition, and it is recommended that the project be responsible for increasing the left-turn lane by one vehicle length (25 feet) in order to provide approximately 175 feet of storage, which is projected to accommodate future 95th percentile queues under all peak-hours. This recommendation is reflected in IM-4a .

At Sonoma Highway/Melita Road (east), 95th percentile queues in both the eastbound and westbound left-turn pockets are projected to exceed the available storage under Existing Plus Project, Baseline Plus Project, and Future Plus Project conditions during one or more peak-hours, creating potentially adverse conditions. It is recommended that the project be responsible for extending the eastbound left-turn

lane by two vehicle lengths (50 feet) to provide approximately 200 feet of storage. On the westbound approach, queues would extend into an adjacent two-way left-turn lane when they exceed the striped left-turn pocket length, which is a typical condition during peak-hours and would not be considered an adverse effect since through traffic would not be blocked. With the recommended lengthened eastbound turn pocket, future 95th percentile queues are projected to be accommodated during all peak-hours. This recommendation is reflected in IM-4b.

At Sonoma Highway/Oakmont Drive, northbound 95th percentile queues on Oakmont Drive are projected to extend to the adjacent intersection (Pine Valley Drive) during peak-hours under Future Plus Project conditions, though this is not considered to be an adverse safety impact since the right turn in/out configuration of Pine Valley Drive limits conflicting movements. Further, since Oakmont Drive terminates just to the north at Sonoma Highway and drivers are already accustomed to slowing/stopping in this area (prior to turning left or right), driver expectation would not be violated as a result of the queue length.

Identified Improvement Measures

- IM-4a** Prior to the issuance of the certificate of occupancy, the project applicant shall implement improvements to the intersection of Sonoma Highway/Calistoga Road intersection. The improvements shall consist of extending the westbound left turn lane by one vehicle length (25 feet) to provide 175 feet of storage.
- IM-4b** Prior to the issuance of certificate of occupancy, the project applicant implement improvements to the intersection of Sonoma Highway/Melita Road (east). The improvements would consist of extending the eastbound left-turn lane by two vehicle lengths (50 feet) to provide approximately 200 feet of storage.

3.14.6 - Cumulative Impacts

Roadway Safety

Project construction may have a potentially significant impact on roadway safety, as activities would increase traffic on roadways in the vicinity of the project site. These effects would cease after construction work is completed, and implementation of recommended MM TRANS-5a through 5d would reduce impacts to a level that is less than significant. Other projects that result in similar impacts would be required to mitigate for their impacts. As such, the project, in conjunction with other projects, would have a less than significant cumulative impact associated with roadway safety or emergency access.

Alternative Transportation

The project proposes to provide internal bicycling and pedestrian facilities for residents. The Sonoma Valley Trail is planned to traverse a portion of the project site. MM TRANS-4a would require the project to construct the segment of the Sonoma Valley Trail that crosses the project site consistent with established dimensions. As part of the Traffic Impact Study (Appendix J), the City commissioned a trail feasibility study, in compliance with the City's Bicycle & Pedestrian Master Plan. The study identified possible locations for the dedication of park land to accommodate a future bicycle and

pedestrian connection between Channel Drive and Sonoma Highway. As such, impacts to trails would be less than significant. Pedestrians attempting to access the westbound bus stop from the project would have to cross Sonoma Highway, and currently there are no marked facilities or safety accommodations to safely cross the highway. IM-11 and IM-4b would ensure the westbound bus stop could be safely accessed. Other projects in Table 3-1 with similar impacts, as well as other relevant cumulative projects as required by CEQA, would be expected to implement similar mitigation if needed. As such, the project, in conjunction with other projects, would have a less than significant cumulative impact associated with bicycle and pedestrian facilities.

Other projects that result in such impacts would be required to mitigate for their impacts. Because the project would not result in significant impacts related to the aforementioned transportation issues, it would not have a related cumulatively significant impact.

Overall

Overall, cumulative transportation/traffic impacts would be significant and unavoidable, since the cumulative conflict with an applicable plan establishing measures of effectiveness for the performance of the circulation system impact would not be reduced to less than significant due to the uncertainty of mitigation implementation as a result of the need for Caltrans approval, and/or the need for additional right-of-way. For reasons previously described, the project's contribution to the significant and unavoidable traffic cumulative impact would be considerable.

Level of Cumulative Significance Before Mitigation

Potentially significant impact.

Cumulative Mitigation Measures

No cumulative mitigation is available.

Level of Cumulative Significance After Mitigation

Significant and unavoidable impact with mitigation incorporated.

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3.15 - Utilities and Service Systems

3.15.1 - Introduction

This section describes the existing conditions related to utilities and service systems (water, wastewater, stormwater, and solid waste) in the City and project site and vicinity as well as the relevant regulatory framework. This section also evaluates the potential impacts related to such utilities and service systems that could result from implementation of the project. Information in this section is based, in part, on information provided by the Santa Rosa Water Department, Sonoma County Water Agency (Sonoma Water), California Department of Resources Recycling and Recovery (CalRecycle), Pacific Gas and Electric Company (PG&E), Santa Rosa General Plan 2035, and the associated Santa Rosa General Plan 2035 Environmental Impact Report (EIR) and Water Supply Assessment (WSA). No utilities and service systems comments were received as part of the EIR public scoping process.

3.15.2 - Environmental Setting

Water

The Santa Rosa Water Department oversees water distribution within the City limits. The Water Department obtains water on a contractual basis from Sonoma Water and supplements Sonoma Water supplies with groundwater and recycled water.

Water Source and Supply

Santa Rosa

The City of Santa Rosa receives its primary potable water supply from the Russian River watershed. Water is provided through the Russian River Project managed by Sonoma Water, a water wholesaler. Sonoma Water has supplied water to meet the City of Santa Rosa's demands since 1959. The City of Santa Rosa also obtains groundwater from two municipal wells.

Surface Water

Sonoma Water's principal source of water is the Russian River, collected through six Ranney water collector systems from two intake sites at Wohler and Mirabel located near Forestville. Infiltration ponds surround the Sonoma Water river collectors and an inflatable dam on the Russian River assists in raising the water level during periods of low flow.

Under the current water entitlement agreement (referred to as the Restructured Agreement) between Sonoma Water and eight contracting agencies, water is supplied to the City of Santa Rosa to meet its demands. Under the Restructured Agreement, the City of Santa Rosa's monthly water entitlement from Sonoma Water is an average day peak month supply of 56.6 million gallons per day (mgd), limited to a total of 29,100 acre-feet per year (AFY).¹

¹ City of Santa Rosa. 2009. General Plan 2035 Draft EIR. Website: <https://ca-santarosa.civicplus.com/392/General-Plan>. Accessed April 6, 2017.

Groundwater

Separate from the Sonoma Water system, the City of Santa Rosa owns and operates two groundwater production wells, Farmers Lane Wells No. 1 and No. 2. These two groundwater wells provide the City of Santa Rosa with up to 2,300 AFY.

Project Site

The three former single-family homes that were destroyed in the Glass Fire were supplied water by a private well that is located in the northwestern portion of the project site near Oakmont Creek.

Recycled Water*Santa Rosa*

The City is also the owner and operator of the Subregional Water Reuse System, providing 140 AFY of recycled water for approved uses, which offsets potable water use within the service area.

Project Site

No recycled water currently serves the project site.

Water Demand

As a retail water supplier, the City of Santa Rosa prepared the 2015 Urban Water Management Plan (2015 UWMP) in 2016, which includes a comparison of water supply to water demands during normal, single-dry, and multiple-dry years. Based on the population and employment projections in the Santa Rosa General Plan 2035 and accounting for conservation savings achieved by implementing required code standards, the 2015 UWMP projects the total water demand for the City from 2020 to 2040, as shown in Table 3.15-1.

Table 3.15-1: Normal Year Supply and Demand Comparison (2015 UWMP Table 7-2)

Category	2020	2025	2030	2035	2040 (Optional)
Supply totals (autofill from Table 6-9)	31,540	31,540	31,540	31,540	31,540
Demand totals (autofill from Table 4-3)	24,289	25,730	26,946	28,243	28,280
Difference	7,251	5,810	4,594	3,297	3,260

To meet the projected demands, the 2015 UWMP outlines three sources of water supply: entitlement from Sonoma Water, groundwater, and recycled water. The City receives the majority of its potable water supply (approximately 90-95 percent) from Sonoma Water and produces water from its two groundwater production wells, which can provide up to 2,300 AFY. Additionally, the City owns and operates the Subregional System, which provides an annual average of 140 AFY of recycled water for urban landscape irrigation to offset potable water demands within the City's water service area; and the City has a very aggressive water conservation program, which reduces current potable water demand and ensures that future water use is efficient. As shown in Table 3.15-2, water supply from these sources is projected to be sufficient to meet demand during normal years through 2040.

Table 3.15-2: Single Dry Year Supply and Demand Comparison (2015 UWMP Table 7-3)

Category	2020	2025	2030	2035	2040 (Optional)
Supply totals	24,289	22,948	23,644	24,408	24,282
Demand totals	24,289	22,948	23,644	24,408	24,282
Difference	0	0	0	0	0
Note: Demand totals from 2025 through 2040 reflect implementation of the City’s Water Shortage Contingency Plan to achieve demand reductions of up to 14 percent by 2040 to match projected water supply totals.					

Sonoma Water projects a supply shortfall under single-dry year conditions estimated to be about 19 percent of normal demand by 2040; however, the City’s 2015 UWMP concludes that City’s groundwater and recycled water supplies would not be impacted by single-dry year hydrologic conditions; as such, a City demand reduction of only about 14 percent would be required. If a supply shortfall occurs during a single-dry year, the City would enact the appropriate stage of the City’s Water Shortage Contingency Plan, as described in Chapter 8 of the 2015 UWMP, to reduce customer demands to match available supplies. Therefore, the 2015 UWMP concludes that there would be sufficient water supply available to meet demand during a single-dry year event.

Sonoma Water does not project a shortfall during multiple-dry year conditions. In addition, the City does not anticipate drought conditions to reduce the City’s groundwater supplies during multiple-dry years. Furthermore, drought conditions are not anticipated to reduce the City’s groundwater supplies due to the quantities of groundwater storage. Nevertheless, if a supply shortfall should occur during a multiple-dry year, the City would enact the appropriate stage of the City’s Water Shortage Contingency Plan to reduce customer water demands. A comparison of projected water supply and demand during a multiple-dry water year period is included in Table 3.15-3.

Table 3.15-3: Projected Water Supply and Demand Multiple Dry Water Year Comparison

Multiple Dry Years Supply and Demand Comparison (acre-feet/year)		2020	2025	2030	2035	2040
First Year	Supply Totals	24,289	25,730	26,946	28,243	28,280
	Demand Totals	24,289	25,730	26,946	28,243	24,280
	Difference	0	0	0	0	0
Second Year	Supply Totals	24,289	25,730	26,946	28,243	28,280
	Demand Totals	24,289	25,730	26,946	28,243	24,280
	Difference	0	0	0	0	0
Third Year	Supply Totals	24,289	25,730	26,946	28,243	28,280
	Demand Totals	24,289	25,730	26,946	28,243	24,280
	Difference	0	0	0	0	0

Multiple Dry Years Supply and Demand Comparison (acre-feet/year)		2020	2025	2030	2035	2040
Fourth Year (Optional)	Supply Totals	24,289	25,730	26,946	28,243	28,280
	Demand Totals	24,289	25,730	26,946	28,243	24,280
	Difference	0	0	0	0	0

Water Distribution

Santa Rosa

The City receives water from Sonoma Water through an aqueduct system that includes mains, turnouts, check valves, and direct connections. The City's water distribution system provides water to customers in Santa Rosa. The City's distribution system includes over 600 miles of mains, 23 reservoirs, and 20 water pump stations. The City also maintains one well treatment facility to remove secondary (taste and odor) constituents from groundwater extracted from its two production wells, Farmers Lane No. 1 and 2.²

Project Site

Three single-family homes were formerly located in the central portion of the project site. The homes were destroyed in the Glass Fire. The City did not deliver water (surface water or groundwater) to the homes. The homes historically received water from a private well that is located in the northwestern portion of the project site near Oakmont Creek. An approximate 200-foot pipe is in place to deliver water from the well to the formerly existing homes. An existing 12-inch water main is located along the east side of the project at Stone Bridge Road within the Oakmont subdivision. A 12-inch water line is located at the western edge of the project site within Melita Road. Sonoma Water has a 35-foot easement along Brand Road that extends towards Melita Road, and a 15-foot easement parallel to the Sonoma Highway.

Wastewater

The Santa Rosa Water Department oversees wastewater collection and treatment for residents and businesses in Santa Rosa, Rohnert Park, Cotati, Sebastopol, and unincorporated portions of Sonoma County.

Wastewater Treatment

Santa Rosa

Sewage generated from residential, commercial, and industrial uses within the City limits is collected and transported to the Laguna Treatment Plant for treatment and disposal. The Laguna Treatment Plant is managed by the City and currently serves approximately 230,000 residents and 6,500 businesses in the City and surrounding communities. The Laguna Treatment Plant is permitted to process up to 21.34 mgd average daily dry weather flow and currently processes an average 17.5

² City of Santa Rosa. 2015 Urban Water Management Plan (2015 UWMP).

mgd. As discussed below, the City may consider future upgrades to increase capacity to 25.79 mgd, with 18.25 mgd allocated to the City.

The Laguna Treatment Plant is one of the largest recyclers of water in Northern California. Recycled water that leaves the treatment plant is reused for many purposes, including irrigation of landscapes, agricultural crops, vineyards, playgrounds, golf courses, and public parks. For example, in 2015 approximately 6,400 acres of farmlands and vineyards were irrigated with recycled water for agricultural uses. Approximately 98 percent of the Laguna Treatment Plant's wastewater is recycled for urban and agricultural irrigation as well as for the Geysers Recharge Project, served by a 41-mile pipeline that transports recycled water to the Geysers steam field for injection.³ The steamfields at the Geyser's Geothermal are recharged with recycled water to generate electricity for 100,000 households in Sonoma and North Bay counties.

Project Site

As the project site is located within Santa Rosa it would be served by a private sewer system. Several sewer easements cross the project site. The southern portion of the project site has an existing sewer easement associated with abandoned sewer pond and line adjacent to Channel Drive. Sewer trunks are also located on Elnoka Lane and along the 1,000-foot roadway that leads up to the formerly existing on-site homes.

Long-Term Treatment Capacity Plans

In anticipation of planned growth, the City adopted an Incremental Recycled Water Program in 2004 that serves as master plan for increasing and conserving treatment capacity. The plan identifies approaches such as indoor water conservation, urban and agriculture reuse, discharge to Laguna de Santa Rosa or the Russian River, increased conveyance of recycled water to the Geysers steamfield, and upgrades to the treatment plant. The City may, as necessary, increase the capacity of the plant to 25.79 mgd, with 18.25 mgd allocated to the City.⁴

The City has planned to update the plant in order to meet recent regulatory changes. Proposed changes would include upgrades to the existing Ultra-Violet (UV) disinfection system (Capital Improvement Projects List, project 00284.) The upgrades are necessary to meet capacity requirements during peak wet weather flows. The City also plans to upgrade the plant with a Low Pressure, High Output UV Disinfection Equipment System.

Wastewater Generation

Santa Rosa

The City of Santa Rosa and surrounding communities currently contain approximately 230,000 residents and 6,500 businesses that generate wastewater needing collection and treatment. Wastewater generated by these land uses is conveyed via existing infrastructure to the Laguna Treatment Plant for treatment and then disposal or reuse.

³ City of Santa Rosa. Water. Recycled Water. Geysers Recharge Project. Website: <https://srcity.org/1061/Recycled-Water>. Accessed May 2019.

⁴ City of Santa Rosa. 2009. General Plan 2035 Draft EIR. Website: <https://ca-santarosa.civicplus.com/392/General-Plan>. Accessed April 6, 2017.

Project Site

The three former single-family homes were served by a private septic system.

Stormwater

Santa Rosa

In Santa Rosa, stormwater runoff is collected and disposed of through an integrated system of curbside gutters, underground pipelines, drainage ditches, and creeks. The City prioritizes the use of infiltration-based landscape features for stormwater treatment. Santa Rosa's stormwater system incorporates detention facilities that minimize potential downstream impacts such as erosion or flooding. These Low Impact Design (LID) features utilize the natural cleaning properties of soil, plants, and microbial activity to break down pollutants and allow for stormwater to recharge groundwater aquifers.⁵ Other than these practices, the City does not divert stormwater for reuse.

Project Site

The project site currently drains overland from the ridgeline running through the center of the site towards the creeks in the northern and southern portions of the site, respectively. A storm drainage system was part of the previously planned Three Bridges development,⁶ with outlets at both Melita South Fork and Melita Creeks. It is not known to what extent the Three Bridges improvements were installed. Runoff from the site either percolates back into the soil or enters the existing storm drain facilities before entering Melita Creek. Existing storm drain facilities are located along Elnoka Lane, the approximately 1,000-foot roadway (Roadway A), and at the eastern border of the project site near Melita Creek.

Solid Waste

The Sonoma County Waste Management Agency (SCWMA), formed in 1992, is the joint powers authority composed of the County of Sonoma and the nine incorporated jurisdictions within Sonoma County: Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, and Windsor. The specific focus of the SCWMA's efforts is the implementation of regional waste diversion programs. The SCWMA currently runs four programs: municipal composting program, regional planning, household hazardous waste, and customer education and outreach.

Solid Waste Generation

Sonoma County

The County of Sonoma oversees solid waste collection and disposal for the nine cities in Sonoma County and unincorporated areas of the County, an area of approximately 1,700 square miles. The Integrated Waste Division of the Sonoma County Transportation and Public Works Department (TPW) is the division that specifically oversees solid waste disposal. The TPW Integrated Waste Division owns the Sonoma County Central Landfill, which houses facilities for recycling, material reuse and natural gas and electrical generation. It owns five refuse transfer stations, oversees the regulation of two commercial

⁵ City of Santa Rosa. 2015 Urban Water Management Plan (2015 UWMP). Website: <http://srcity.org/DocumentCenter/Home/View/7066>. Accessed June 27, 2017.

⁶ Note that the status of infrastructure installed as part of the previously planned Three Bridges development remains to be verified by the City of Santa Rosa. It will be the sole responsibility of the applicant to verify existing and needed infrastructure and to install any infrastructure needed for the proposed project to the satisfaction of the City Engineer.

hauling companies and maintains closed landfills.⁷ Within the City of Santa Rosa, Integrated Resource Recovery Company (Recology) provides solid waste and recycling collection services to commercial and residential customers. Solid waste and recycling collected within the City limit is transported to County refuse transfer stations for sorting, and materials not recycled are then transported to landfill.

Project Site

Solid waste collection services to the project site are provided by Recology.

Landfills

Sonoma County

The County of Sonoma disposes of solid waste at four landfills outside the County. The closest is Redwood Sanitary Landfill in the City of Novato, followed by Potrero Hills Landfill in the City of Suisun City, Vasco Road Landfill in the City of Livermore, and Keller Canyon Landfill in the City of Pittsburg. The Central Disposal Site in the City of Petaluma was used for disposal until recently, when the County was required to shut down the site temporarily. One long-term option for disposal that the County is pursuing is a divestiture process to determine if the County can sell assets, including transfer stations and the Central Disposal Site. Through the divestiture process and the selling of assets, the Central Disposal Site would reopen, and the County would resume use of the landfill and cease the current outhaul activities. The Central Disposal site has 14 years of capacity remaining. The other long-term option for disposal is to continue use of the four landfills outside of Sonoma County. Table 3.15-4 provides a summary of the landfills.

Table 3.15-4: Landfill Summary

Landfill	Location	Distance to Waste Site (miles)	Permitted Daily Capacity (tons)	Remaining Total Capacity (cubic yards)	Estimated Closure Date
Redwood Sanitary Landfill ¹	Novato	29	2,300	26 million	2024
Potrero Hills ²	Suisun City	50	4,330	13.8 million	2048
Keller Canyon ³	Pittsburg	64	3,500	63.4 million	2030
Vasco Road Sanitary Landfill ⁴	Livermore	93	2,518	7.4 million	2022
<p>Notes:</p> <p>¹ California Department of Resources Recycling and Recovery (CalRecycle). 2019. Redwood Landfill. Website: http://www.calrecycle.ca.gov/SWFacilities/Directory/21-AA-0001/Detail/. Accessed October 29, 2019.</p> <p>² California Department of Resources Recycling and Recovery (CalRecycle). 2019. Potrero Hills Landfill, Inc. Website: http://www.calrecycle.ca.gov/SWFacilities/Directory/48-AA-0075/Detail/. Accessed October 26, 2019.</p> <p>³ California Department of Resources Recycling and Recovery (CalRecycle). 2019. Keller Canyon Landfill. Website: http://www.calrecycle.ca.gov/SWFacilities/Directory/07-AA-0032/Detail/. Accessed October 26, 2019.</p> <p>⁴ California Department of Resources Recycling and Recovery (CalRecycle). 2019. Vasco Road Sanitary Landfill. Website: http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0010/Detail/. Accessed October 26, 2019.</p> <p>Source: California Department of Resources Recycling and Recovery (CalRecycle). 2019.</p>					

⁷ County of Sonoma. Integrated Waste: What we do. Website: <http://sonomacounty.ca.gov/TPW/Integrated-Waste/>. Accessed October 29, 2019.

Project Site

Any solid waste produced at the project site would be delivered to one of the four landfills listed previously in Table 3.15-4.

Energy

Pacific Gas and Electric Company (PG&E) provides electricity and natural gas service to Santa Rosa. Below is a discussion of each energy source. In December 2012, the Sonoma County Board of Supervisors adopted a joint power agreement to establish Sonoma Clean Power (SCP). As a public agency operated by a Joint Powers Authority, SCP purchases electricity for customers, which replaces PG&E's electric service. SCP launched residential and commercial services in April 2013. Customers pay PG&E for delivery to residences and businesses in the SCP service area. PG&E maintains the grid and manages administrative billing.

Electricity

Northern California PG&E is currently the electric service provider to project Site. PG&E serves approximately 16 million customers through 158,000 circuit miles of electric transmission and distribution lines within its 70,000-square-mile service area in Northern and Central California.⁸

In 2018 (year of most recent data), PG&E delivered approximately 102,444.6 million kilowatt-hours (kWh) of electricity within its service area.⁹ Of this total, approximately 2,914.5 million kWh of electricity was consumed in Sonoma County (including incorporated and unincorporated areas), which accounted for approximately 2.8 percent of the total electrical consumption within the PG&E service area.¹⁰ Table 3.15-5 shows PG&E's historic electrical consumption and future consumption forecasts.

Table 3.15-5: PG&E Service Area Electric Consumption and Forecast

Year	Consumption (GWh)
1990	86,803
2000	101,333
2005	101,675
2010	108,344
2015	115,823
2020	122,414
2024	123,443
Notes: ¹ PG&E Service Area includes 70,000 square-miles in Northern and Central California, covering the Bay Area, Sacramento, and most of the Central Valley and California Central and North Coast. GWh = gigawatt hours Source: California Energy Commission (CEC). 2009; 2013.	

⁸ Pacific Gas & Electric Company (PG&E). 2016. Company Profile. Website: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed April 6, 2017.

⁹ California Energy Commission (CEC). 2019. Electricity Consumption by Planning Area (PG&E). Website: <http://ecdm.energy.ca.gov/elecbyplan.aspx>. Accessed October 29, 2019.

¹⁰ California Energy Commission (CEC). 2019. Electricity Consumption by County. Website: <http://ecdm.energy.ca.gov/elecbycounty.aspx>. Accessed October 29, 2019.

PG&E electricity is generated through a combination of a nuclear power plant; natural gas-fired power plants; renewable energy sources such as wind, solar, geothermal, and small hydroelectric facilities; and additional energy purchased from other energy suppliers. As shown in Table 3.15-6, in 2018, PG&E received 15 percent of its electricity from natural gas-fired power plants; 34 percent from nuclear generation; 39 percent from eligible renewable resources; 13 percent from large hydroelectric power plants; and 17 percent from other unspecified power sources (i.e., electricity that is not traceable to specific generation sources by any auditable contract).^{11,12}

Table 3.15-6: PG&E 2018 Power Mix

Energy Source	Percent
Renewable ¹	39
Nuclear	34
Large Hydroelectric	13
Natural Gas	15
Total	100 ²
<p>Notes:</p> <p>¹ Renewable energy sources include wind, solar, geothermal, and small hydroelectric facilities</p> <p>² One percent error in percent total corrected from source data.</p> <p>Source: Pacific Gas & Electric Company (PG&E). 2019. Delivering Low-emission energy. Website: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page. Accessed October 29, 2019.</p>	

As discussed above, SCP is a public agency operated by a joint power authority. SCP provides electricity for residential and commercial customers in Sonoma and Mendocino counties. SCP provides customers with cleaner energy sources but at lower associated emissions at prices competitive with PG&E. SCP replaces PG&E's electric generation service with its own electric service. SCP purchases cleaner electricity, then transfers it through PG&E's wires to deliver it to customer's homes or businesses.

Project Site

The three former single-family residences were served by PG&E and SCP, via aboveground electrical power lines.

¹¹ Pacific Gas & Electric Company (PG&E). 2019. Delivering Low-emission energy. Website: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page. Accessed October 29, 2019.

¹² Renewable energy sources for the purposes of California's renewable portfolio standard of 33 percent renewable energy generation by 2020 include biomass, solar, wind, geothermal, and small hydroelectric power plants that generate 30 MW or less of electricity.

Natural Gas

Northern California

PG&E provides natural gas to all or part of 39 counties in California, comprising most of the northern and central portions of the State. In 2018 (year of most recent data), PG&E delivered approximately 4,794.4 million therms of natural gas throughout its service area in California.¹³

Of this total, Sonoma County received 111.34 million therms—approximately 2.3 percent of the total deliveries within the PG&E service area.¹⁴ Table 3.15-7 below shows PG&E's historic natural gas consumption and forecasts of future consumption. New efficiency initiatives, including the 2016 Title 24 building standards update, contribute to a lower natural gas future forecast.¹⁵ The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for construction of new residential and nonresidential buildings. The 2019 Building Energy Efficiency Standards went into effect on January 1, 2020.¹⁶

Table 3.15-7: PG&E Service Area Natural Gas Consumption and Forecast

Year	Consumption (million therms)
1990	5,275
2000	5,291
2012	4,761
2015	4,761
2020	4,848
2024	4,909

Note:
PG&E Service Area includes 70,000 square-miles in Northern and Central California, covering the Bay Area, Sacramento, and most of the Central Valley and California Central and North Coast.
Source: California Energy Commission (CEC). 2013.

Project Site

The former single-family residences obtained natural gas from PG&E.

¹³ California Energy Commission (CEC). 2019. Gas Consumption by Entity. Website: <http://ecdms.energy.ca.gov/gasbyutil.aspx>. Accessed October 25, 2019.

¹⁴ California Energy Commission (CEC). 2019. Gas Consumption by County. Website: <http://ecdms.energy.ca.gov/gasbycounty.aspx>. Accessed October 29, 2019.

¹⁵ California Energy Commission (CEC). 2013. California Energy Demand 2014-2024 Preliminary Forecast. Website: <http://www.energy.ca.gov/2013publications/CEC-200-2013-004/CEC-200-2013-004-V1-CMF.pdf>. Accessed August 2, 2016.

¹⁶ California Energy Commission (CEC). 2020. 2019 Building Energy Efficiency Standards. Website: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>. Accessed January 15, 2020.

3.15.3 - Regulatory Framework

Federal

Safe Drinking Water Act

The Safe Drinking Water Act authorizes the United States Environmental Protection Agency (EPA) to establish national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities.

Clean Water Act (National Pollutant Discharge Elimination System)

The Water Pollution Control Act of 1972, more commonly known as the Clean Water Act (CWA), regulates the discharge of pollutants into watersheds throughout the nation. Under the CWA, the EPA implements pollution control programs and sets wastewater standards.

The National Pollutant Discharge Elimination System (NPDES) permit program was established within the CWA to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities. Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

State

California Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne), which was passed in California in 1969, the State Water Resources Control Board (State Water Board) has the ultimate authority over State water rights and water quality policy. Porter-Cologne also establishes nine Regional Water Quality Control Boards (RWQCBs) to oversee water quality on a day-to-day basis at the local and regional level. RWQCBs engage in a number of water quality functions in their respective regions, and regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Santa Rosa is overseen by the North Coast RWQCB.

California Urban Water Management Planning Act

The Urban Water Management Planning Act (California Water Code §§ 10610–10656) requires that all urban water suppliers with at least 3,000 customers prepare UWMPs and update them every 5 years. The act requires that UWMPs include a description of water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions. Specifically, UWMPs must:

- Provide current and projected population, climate, and other demographic factors affecting the supplier's water management planning;
- Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier;
- Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage;
- Describe plans to supplement or replace that source with alternative sources or water demand management measures;
- Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis (associated with systems that use surface water);
- Quantify past and current water use;
- Provide a description of the supplier's water demand management measures, including schedule of implementation, program to measure effectiveness of measures, and anticipated water demand reductions associated with the measures; and
- Assess the water supply reliability.

California Health and Safety Code

Section 64562 of the California Health and Safety Code establishes water supply requirements for service connections to public water systems. Before additional service connections can be permitted, enough water must be available to the public water system from its water sources and distribution reservoirs to adequately, dependably, and safely meet the total requirements of all water users under maximum-demand conditions.

California Senate Bills 610 and 221

Senate Bill (SB) 610 and SB 221 (Water Code Section 10910(c)(2)) amended State law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 seek to promote more collaborative planning between local water suppliers and cities and counties by requiring that detailed information regarding water availability be provided to decision-makers prior to approval of specified large development projects. SB 610 requires that detailed information be included in a WSA, which is then included in the administrative record that serves as the evidentiary basis for an approval action by a city or county. SB 221 requires that the detailed information be included in a verification of water supply in connection with proposed subdivisions. Under SB 610, WSAs must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code § 10912(a)) subject to the California Environmental Quality Act (CEQA).

In accordance with SB 610 and SB 221, a WSA was adopted for the Santa Rosa General Plan 2035 that addresses the current and planned future water supply and demand of the water supplier, and makes a determination of the sufficiency of its water supplies for existing and planned future uses,

including the project site.¹⁷ As such, water use in accordance with Santa Rosa General Plan 2035 designation, build out of up to 325 residential units has already been accounted for on the project site.

SB 610 indicates that if a residential project is more than 500 units, then a WSA must be prepared. While the proposed project's 676 residential units exceeds this 500-unit threshold, as previously indicated, 325 units were already considered in the WSA prepared for Santa Rosa General Plan 2035. As such, for the purposes of SB 610 and SB 221 threshold compliance, only the residential units being proposed beyond the 325 units already considered in the Santa Rosa General Plan 2035 WSA need be considered. The project proposes 351 units in addition to the 325 units already assumed in the Santa Rosa General Plan 2035 WSA. These additional units 351 units do not exceed the 500 unit threshold and, therefore, a project specific WSA need not be prepared.¹⁸

California Green Building Standards Code

The California Green Building Standards Code (CALGreen) was most recently updated in 2019, and these changes went into effect on January 1, 2020.¹⁹ This code was developed to enhance the design and construction of buildings and sustainable construction practices through planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental air quality. Some of the notable changes in the 2019 CALGreen Code over the prior 2016 CALGreen Code include an alignment of building code engineering requirements with the national standards that include anchorage requirements for solar panels, provides design requirements for buildings in tsunami zones, increases the Minimum Efficiency Reporting Value (MERV) for air filters from 8 to 13, increased electric vehicle charging requirements in parking areas, and set minimum requirements for use of shade trees. The 2019 standards also encourage the use of battery storage and heat-pump water heaters, require the more widespread use of light emitting diode (LED) lighting, as well as improve the building's thermal envelope through high-performance attics, walls, and windows. The 2019 standards also require improvements to ventilation systems by requiring highly efficient air filters to trap hazardous air particulates as well as improvements to kitchen ventilation systems.²⁰

Single-family homes built to the 2019 Standards will use about 30 percent less energy for lighting, heating, cooling, ventilation, and water heating compared to those built to the previous 2016 standards. In 30 years, California will have saved enough energy to power 2.2 million homes, reducing the need to build 12 additional power plants.

Over time, the energy savings will accumulate as the 2019 Standards affect each subsequent year of construction. The savings result from changes to both the residential and nonresidential standards. The 2019 Standards affect both newly constructed buildings and alterations to existing buildings.

¹⁷ Santa Rosa Urban Water Management Plan. Website: <http://srcity.org/DocumentCenter/Home/View/13857>.

¹⁸ Burke, Jennifer. Director of Santa Rosa Water, City of Santa Rosa. Personal Communication: E-mail. December 10, 2018.

¹⁹ California Building Standards Commission. 2019. Green Building Standards. Website: <https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen>. Accessed December 20, 2020.

²⁰ California Energy Commission (CEC). 2018. Building Energy Efficiency Standards for Residential and Nonresidential Buildings for the 2019 Building Energy Efficiency Standards. December.

These savings result from retrofit insulation requirements for existing roofs and the energy requirement for renovated lighting systems to meet the updated Standards.

California Energy Regulations

Title 24, Part 6, of the California Code of Regulations is the California Building Code, which governs all aspects of building construction. Included in Part 6 of the Code are standards mandating energy efficiency measures in new construction. Since its establishment in 1977, the building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas usage and costs in California. The standards are updated every three years to incorporate new energy efficiency technologies. The latest update to the Title 24 standards became effective on January 1, 2020. The standards regulate energy consumed in buildings for heating, cooling, ventilation, water heating, and lighting. Title 24 is implemented through the local planning and permit process.

California Water Conservation Act

The California Water Conservation Act (SB X7-7) was enacted in November 2009 and requires each urban water supplier to select one of four water conservation targets contained in California Water Code Section 10608.20 with the Statewide goal of achieving a 20 percent reduction in urban per-capita water use by 2020. Under SBX7-7, urban retail water suppliers are required to develop water use targets and submit a water management plan to the Department of Water Resources (DWR) by July 2011. The plan must include the baseline daily per-capita water use, water use target, interim water use target, and compliance daily per-capita water use.

The City of Santa Rosa prepared a UWMP in 2015 that demonstrates compliance with State water conservation requirements.²¹

California Model Water Efficient Landscape Ordinance

The Model Water Efficient Landscape Ordinance was adopted by the California Office of Administrative Law in September 2009, and requires local agencies to implement water efficiency measures as part of its review of landscaping plans. Local agencies can either adopt the Model Water Efficient Landscape Ordinance or incorporate provisions of the ordinance into its own code requirements for landscaping. As discussed below under the local regulatory framework discussion, the City adopted a local ordinance.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939), effective January 1990. The legislation required each local jurisdiction in the State to set diversion requirements of 25 percent in 1995 and 50 percent in 2000; established a comprehensive statewide system of permitting, inspections, enforcement, and maintenance for solid waste facilities; and authorized local jurisdictions to impose fees based on the types or amounts of solid waste generated. In 2007, amendments to AB 939 introduced a new per capita disposal and goal measurement system that moves the emphasis from an estimated diversion measurement

²¹ Sonoma Water. 2016. 2015 UWMP. Website: <http://www.scwa.ca.gov/uwmp/>. Accessed April 6, 2017.

number to using an actual disposal measurement number as a per capita disposal rate factor. As such, the new disposal-based indicator (pounds per person per year) uses only two factors: a jurisdiction's population (or in some cases employment) and its disposal as reported by disposal facilities.

California Appliance Efficiency Regulations

California's 2016 Appliance Efficiency Regulations were established in 1976 in response to a legislative mandate to reduce California's energy consumption. The regulations are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2016 Appliance Efficiency Regulations (California Code of Regulations [CCR] Title 20 §§ 1601–1608) went into effect on January 1, 2017. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. While these regulations are now often seen as "business as usual" in California, they do exceed the standards imposed by any other state and reduce energy demand.

Regional

North Coast Region Water Quality Control Board Basin Plan

The project site is within the jurisdiction of the North Coast RWQCB. The Water Quality Control Plan for the North Coast Region (Basin Plan), prepared by the North Coast RWQCB, identifies the beneficial uses of surface waters in its region and specifies water quality objectives to maintain the continued beneficial uses of these waters. According to the Basin Plan, beneficial uses of the Santa Rosa subarea of the Russian River include municipal, agricultural, and industrial supply; groundwater recharge; warm and cold freshwater habitat; navigation; spawning, reproduction, and development; water contact recreation; non-water contact recreation; wildlife habitat; rare species; and possible shellfish and aquatic plant and animal harvesting.²²

The North Coast RWQCB also issues the NPDES Municipal Separate Storm Sewer System (MS4) Phase 1 permit to the City, requiring post-construction stormwater quality measures and site design consistent with the Storm Water Low Impact Development Technical Design Manual (LID Manual) and pollution preparation measures.

Santa Rosa Area Standard Urban Storm Water Mitigation Plan

The Santa Rosa Area Standard Urban Storm Water Mitigation Plan (SUSMP) was developed by the City of Santa Rosa and County of Sonoma to describe County programs for preventing and controlling the detrimental effects of new and redevelopment projects on stormwater quality and runoff. These guidelines have been developed to assist project sponsors and municipal staff to implement the Santa Rosa Area SUSMP requirements that were adopted by the North Coast RWQCB in June 2003. Since the SUSMP requirements apply to both privately sponsored projects and public capital improvement projects, these Guidelines should be used by development project applicants, municipal development project review staff, and municipal staff responsible for capital improvement projects. The SUSMP requirements are part of the Storm Water Quality Management Plan (SWQMP) that has become an enforceable part of the reissued municipal stormwater NPDES permit for the City of Santa Rosa, the

²² North Coast Regional Water Quality Control Board (North Coast RWQCB). Website: <https://www.waterboards.ca.gov/northcoast/>. Accessed June 27, 2017.

County of Sonoma, and Sonoma Water. These Guidelines also have been created to comply with the municipal stormwater NPDES permit requirement for the City of Santa Rosa and County of Sonoma to develop a SUSMP Guidance Document.²³

Local

Santa Rosa General Plan 2035

Water, Wastewater, and Solid Waste

- **Goal PSF-F:** Ensure that an adequate supply of water is available to serve existing and future needs of the city.
- **Policy PSF-F-1:** Utilize high quality water from Sonoma County Water Agency [Sonoma Water] aqueduct system as the primary water supply.
- **Policy PSF-F-2:** Ensure that water supply capacity and infrastructure are in place prior to occupancy of new development.
- **Policy PSF-F-3:** Develop available groundwater resources for the purpose of providing a supplemental source of water in the event of an emergency.
- **Policy PSF-F-4:** Maintain existing levels of water service by preserving and improving infrastructure, replacing water mains as necessary, and improving water transmission lines.
- **Policy PSF-F-5:** Decline requests for extension of water beyond the Urban Growth Boundary, except in cases of existing documented health hazards and in areas where the city has agreements to provide services.
- **Policy PSF-F-6:** Evaluate the city's long-term water supply strategies, including development of new sources of water supply, improved water conservation and re-use, and implementation of appropriate growth control measures if necessary.
- **PSF-G:** Ensure that adequate sewer capacity is available to serve existing and future needs of the city.
- **PSF-G-1:** Continue to explore and develop new uses for treated wastewater, including expanding existing programs such as urban and agricultural irrigation, consistent with objectives adopted by the Board of Public Utilities and the City Council. Examples of urban reuse include park and landscaping irrigation.
- **PSF-G-2:** Maintain existing levels of wastewater service by preserving and improving infrastructure, including replacing sewer main, as necessary.
- **PSF-G-3:** Decline requests for extension of sewer services beyond the Urban Growth Boundary, except in cases of existing documented health hazards and in areas where the city has agreements to provide services.
- **PSF-H:** Meet the city's solid waste disposal needs, while maximizing opportunities for waste reduction and recycling.

²³ EOA, Inc., BKF Engineers, 2005. Guidelines for the Standard Urban Storm Water Mitigation Plan. June.

- **PSF-H-1:** Continue contracting for garbage and recycling collection services. Expand the single-stream recycling program (all recyclables in one container) to all users.
- **PSF-H-2:** Work with Sonoma County to identify alternatives to meet the need for solid waste disposal.
- **PSF-H-3:** Expand recycling efforts in multifamily residential and commercial projects, and continue to encourage recycling by all residents.
- **PSF-H-4:** Require provision of attractive, convenient recycling bins and trash enclosures in residential and non-residential development.
- **PSF-H-5:** Continue public education programs about waste reduction, including recycling, yard waste, wood waste, and household hazardous waste.
- **PSF-H-6:** Consider development of a residential and commercial food waste composting program.

Stormwater Management

- **PSF-I:** Manage, maintain, and improve stormwater drainage and capacity.
- **PSF-I-1:** Require dedication, improvement, and maintenance of stormwater flow and retention areas as a condition of approval.
- **PSF-I-2:** Require developers to cover the costs of drainage facilities needed for surface runoff generated as a result of new development.
- **PSF-I-3:** Require erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity, and protect water quality.
- **PSF-I-4:** Require measures to maintain and improve the storm drainage system, consistent with goals of the Santa Rosa Citywide Creek Master Plan, to preserve natural conditions of waterways and minimize paving of creek channels.
- **PSF-I-5:** Cooperate with the Sonoma County Water Agency and the Northern California Regional Water Quality Control Board to conduct regular assessment of stormwater drainage facilities, to ensure that adequate drainage capacity is maintained throughout the system to accommodate increases in residential and commercial development.
- **PSF-I-6:** Require implementation of Best Management Practices to reduce drainage system discharge of non-point source pollutants originating from streets, parking lots, residential areas, businesses, industrial operations, and those open space areas involved with pesticide application.
- **PSF-I-7:** Prepare and distribute information to increase awareness of businesses and residents about the need to reduce drainage system discharge of non-pollutants.
- **PSF-I-8:** Implement the Standard Urban Storm Water Mitigation Plan (SUSMP) in order to reduce pollutants and runoff s flows from new development and significant redevelopment projects.

- **PSF-I-9:** Consider installation of creekside pathways, consistent with the Citywide Creek Master Plan and Bicycle and Pedestrian Master Plan, when possible as part of stormwater improvement projects along the city's creek corridors.

Santa Rosa Incremental Recycled Water Program Master Plan

The purpose of the Santa Rosa Incremental Recycled Water Program Master Plan is to assist the City in deciding how to manage additional wastewater flows into the Subregional Water Reuse System resulting from updates to the general plans of Santa Rosa and Rohnert Park. It also must describe methods for managing current and future flows that are discharged and which are affected by new regulations, including the California Toxics Rule (CTR). The sum of these flows is the incremental flow to be addressed by the Incremental Recycled Water Program. The City of Santa Rosa is the managing partner for the Subregional System. This Master Plan formulates a course of actions for implementing facilities under the Incremental Recycled Water Program to manage the incremental flow.

Santa Rosa Urban Water Management Plan

The Santa Rosa 2015 UWMP has been prepared in accordance with the UWMP Act, as defined by the California Water Code, Division 6, Part 2.6, Sections 10610 through 10656, and the Water Conservation Act of 2009 (SB X7-7). The City is a retail water supplier to approximately 53,000 residential and commercial accounts located within Santa Rosa's service area. The 2015 UWMP addresses the City's water system and includes a description of the water supply sources, historical and projected water use, and a comparison of water supply to water demands during normal, single-dry, and multiple-dry years. The 2015 UWMP also addresses water use efficiency legislation, including the City's 2015 and 2020 water use targets, as required by SB X7-7, and the implementation plan for meeting the City's 2020 water use targets. The UWMP projections and estimates are based on buildout by 2035.

Santa Rosa Water Shortage Contingency Plan

The City's Water Shortage Plan provides guidance on demand reduction strategies and implementation of steps to respond to a catastrophic emergency. In the event that a water shortage extends beyond two voluntary conservation stages, the Plan would implement mandatory prohibitions and consumption reduction methods that would be exercised in response to a water shortage, as well as penalties and charges for excess use. Primarily, the City relies on robust information sharing and the generation of awareness related to water shortage conditions and the attendant prohibitions that exist for the relevant stage. In addition, the City also utilizes water waste notifications in all stages, and it has the authority to require a water audit at customer sites, install a flow-reducing device at the meter, and disconnect water service for those customers that repeatedly violate prohibitions or routinely exceed allotments. In addition, all customers may be subject to a Water Shortage Charge in Stages 3-7 to help cover water system costs and encourage water conservation by all customers, and in Stages 5-7, the City has the ability to implement Excess Use Penalties for customers that exceed their allotments.²⁴

²⁴ Santa Rosa 2015 Urban Water Management Plan (2015 UWMP). Website: <http://srcity.org/DocumentCenter/Home/View/7066>. Accessed July 7, 2017.

Santa Rosa City Code

City Code Chapter 17.12, Storm Water, regulates modifications to the natural flow of stormwater as well as discharges to the City's stormwater system in compliance with applicable NPDES stormwater discharge permits.

City Code Section 14-04.015, Water Shortage Rate Structure, provides that the City Council of the City of Santa Rosa or the Director of Utilities can declare a water shortage emergency at any time and implement water-rationing Stages 2, 3 or 4 pursuant to its current, adopted Urban Water Shortage Contingency Plan.

City Code Section 14-30.020, Water Efficient Landscape Ordinance regulates new and rehabilitated landscape projects. Pursuant to the ordinance, all landscape projects that require a City building or grading permit, plan check, design review, or utilities certificate would be subject to the ordinance. Updated in December 2015, the ordinance generally seeks to protect soils, reduce runoff, and increase water use efficiency. Projects subject to the ordinance would prepare and submit analysis and design plans that demonstrate compliance, subject to City review.

3.15.4 - Impacts and Mitigation Measures

Significance Criteria

According to CEQA Guidelines Appendix G, to determine whether impacts related to utilities and service systems are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects?
- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
- c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Approach to Analysis

The following evaluation discusses whether the project would result in direct or indirect significant environmental impacts related to water, wastewater, stormwater, electric power, natural gas, telecommunication, or solid waste services and facilities. The evaluation also discusses whether the project would be served by sufficient water supplies and wastewater disposal services. Finally, the

evaluation discusses the project's production of solid waste in relation to regulatory standards or goals and compliance with management and reduction statutes and regulations.

The demand for potable water (both with and without the use of recycled water) was calculated to assist in determining whether sufficient water supply would be available. Note that water use on the project site in accordance with Santa Rosa General Plan 2035 buildout of up to 325 residential units has already been considered in the WSA prepared for Santa Rosa General Plan 2035. Nonetheless, this analysis considers water demand of all 676 proposed units.

Wastewater production was calculated and compared with City treatment capacity to determine whether wastewater treatment requirements would be exceeded. The project's changes to on-site drainage and stormwater outputs were identified and analyzed in regard to off-site transmittal. The City's wastewater discharge permitting, and stormwater requirements were also reviewed. In addition, the project's potential generation of solid waste was calculated and compared to available landfill capacity.

The analysis involved reviewing published data and material provided by the Santa Rosa UWMP, Santa Rosa Water Master Plan, Santa Rosa Incremental Recycled Water Program Master Plan, Santa Rosa General Plan 2035, Santa Rosa General Plan 2035 EIR and associated WSA, and the Santa Rosa Sewer System Master Plan.

Impact Evaluation

Water, Wastewater, Stormwater, Power, Natural Gas, and Telecommunication Facilities

Impact UTIL-1:	The proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects.
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Water

This project is located in an urbanized area that is currently served by the City of Santa Rosa and accounted for in the 2015 UWMP. The 2015 UWMP determined that the City has sufficient water supplies to accommodate the anticipated population growth throughout its service area, including the project site. As discussed under Impact UTIL-2, sufficient water supplies are available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Therefore, the project would be readily served by existing adjacent facilities and would not require new, expanded, or relocated water facilities besides those constructed on-site and considered within this Draft EIR. The construction impacts of installing such infrastructure is studied under more impact-specific chapters (i.e., Air Quality in Section 3.2; Biological Resources in Section 3.3; GHG Emissions and Energy in Section 3.6; Noise in Section 3.10; and Transportation in Section 3.14). Therefore, impacts related to need for relocation or construction of new or expanded water supply facilities would be less than significant.

Wastewater

As described in Chapter 2, Project Description, the project would include the installation of all new wastewater infrastructure to serve the project. The project's projected wastewater would be

conveyed to the Laguna Treatment Plant via new wastewater connections constructed within the project site. The construction impacts of installing such infrastructure is studied under more impact-specific chapters (i.e., Air Quality in Section 3.2; Biological Resources in Section 3.3; GHG Emissions and Energy in Section 3.6; Noise in Section 3.10; and Transportation in Section 3.14).

As described under Impact UTIL-3, the project would generate approximately 51,000 gallons of wastewater per day. The project's estimated wastewater generation represents approximately 0.3 percent of the Laguna Treatment Plant's daily dry weather flow and approximately 0.2 percent of the maximum permitted flow. Therefore, the Laguna Treatment Plant provides sufficient capacity to handle wastewater generated by the project. As a result, the Laguna Treatment Plant would have sufficient capacity to serve all aspects of the project, and a new or expanded wastewater treatment facility would not be required. Therefore, impacts related to need for relocation or construction of new or expanded wastewater treatment facilities would be less than significant.

Stormwater

The project site is mostly undeveloped and composed of pervious surfaces, such as grasses and vegetation. An existing on-site storm drainage system was proposed as part of the previously planned Three Bridges²⁵ development, with outlets at both Melita South Fork and Melita Creeks. It is not known to what extent the Three Bridges improvements were installed. However, for environmental analysis purposes, it is assumed that a new drainage system would be constructed. As described in Chapter 2, Project Description, the project would include an on-site storm drain system as well as stormwater quality improvement devices. Outfalls would be required to on-site waterways in several locations. Stormwater collection systems and treatment would be privately owned and maintained. The construction impacts of installing such infrastructure is studied under more impact-specific chapters (i.e., Air Quality in Section 3.2; Biological Resources in Section 3.3; GHG Emissions and Energy in Section 3.6; Noise in Section 3.10; and Transportation in Section 3.14). As described in Section 3.8, Hydrology and Water Quality, implementation of the project would leave approximately 24 percent of the project site undisturbed in its natural state and approximately 34 percent would be landscaped, thereby limiting increase in stormwater runoff volume. Construction of new proposed uses would increase the amount of impervious surface on the site, and, as a result, could increase the volume of runoff to the storm drainage system. However, to reduce stormwater runoff associated with the project, the City would require compliance with the applicable provisions of the SUSMP given that the project would create more than 1 acre of new impervious surface.

The project would implement post-development measures and BMPs consistent with applicable provisions of the LID Manual to reduce stormwater pollution such as runoff detention areas, bio-swales, and other landscape-based treatment to reduce peak flows. The LID BMPs that the project would include are permanent stormwater BMPs that treat or retain stormwater through a soil filter media, vegetation, and/or retain stormwater runoff on-site through infiltration of evapotranspiration. These BMPs are intended to minimize adverse impacts from stormwater runoff on water quality, mimic pre-development water balance, minimize pollutant loadings, and minimize post-development surface flows and velocities. As discussed in Impact HYD-3, compliance with

²⁵ Note that the status of infrastructure installed as part of the previously planned Three Bridges development remains to be verified by the City of Santa Rosa. It will be the sole responsibility of the applicant to verify existing and needed infrastructure and to install any infrastructure needed for the proposed project to the satisfaction of the City Engineer.

applicable regulations and implementation of the proposed stormwater management features would ensure the project would not create runoff that exceeds the capacity of existing or planned stormwater drainage systems. As a result, proposed stormwater facilities would reduce project generated stormwater to the maximum extent practicable and would not require new or expanded stormwater drainage facilities. Therefore, impacts related to the need for relocation or construction of new or expanded stormwater drainage facilities would be less than significant.

Power, Natural Gas, and Telecommunications

The project site would be served by Pacific Gas and Electric Company (PG&E) from existing overhead electrical and underground natural gas lines along Sonoma Highway and Melita Road. Sonoma Clean Power may also provide customers with energy from alternative sources. Phone and internet services would be provided by various companies, including AT&T, Xfinity Comcast, and Verizon. The project would not require new off-site power, natural gas, or telecommunication facilities because it is located in an urban area that already contains sufficient and adjacent utility infrastructure. The project would, however, require that new on-site cables and infrastructure be laid to connect to existing utility facilities. All utility lines would be underground and located within public utility easements. The construction impacts of installing such infrastructure are studied under more impact-specific chapters (i.e., Air Quality in Section 3.3; Biological Resources in Section 3.4; GHG Emissions and Energy in Section 3.7; Noise in Section 3.11; and Transportation in Section 3.14). Therefore, impacts related to need for relocation or construction of new or expanded power, natural gas, or telecommunication facilities would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Water Supplies

Impact UTIL-2:	The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
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During construction, water would be used for dust control, worker consumption, and other construction related activities. All water used during construction would be trucked on-site by construction personal and from permitted sources. Construction water use would be limited to the construction period and therefore would not result in a permanent water demand.

The project's estimated water demand is shown on Table 3.15-8, using water demand rates by land use from the 2015 UWMP and 2014 Water Master Plan. The 2014 Water Master Plan determined land use water demand in the City of Santa Rosa by considering past water usage rates and

associated Santa Rosa General Plan 2035 land use designation. The project site was included in the calculations and determinations.

The project would include a mix of land uses including senior housing in varying densities and employee housing as well as open space and landscaped areas. These land uses were matched to those identified in the 2014 Water Master Plan to determine water demand.

Table 3.15-8: Project Water Demand

Land Use Type	Housing Units	Acres	Water Demand Rate ¹ (acre-feet/unit/day)	Water Demand	
				Daily (acre-feet)	Annual (acre-feet)
Low Density	74	13.02	0.0008	0.0597	21.8
Medium Density	602		0.0006	0.3731	136.2
Landscaped	—	23.49	0.0011	0.0258	9.4
Total					167.4
Note: ¹ City of Santa Rosa Water Master Plan Update. Page 11, Table 2-8. Website: http://srcity.org/DocumentCenter/Home/View/13857 . Source: FirstCarbon Solutions (FCS) 2018.					

Based on the proposed number of residential units and the amount of landscaped area, total operational water demand for the project is 167.4 AFY, which represents less than 1 percent of total available annual water supply of 29,100 AFY projected in the 2015 UWMP.²⁶ Further, the project is consistent with Santa Rosa General Plan 2035 land use designations and General Plan 2035 buildout projections because the project would increase the City population by approximately 1.6 percent of the expected Santa Rosa General Plan 2035 population growth (see Impact POP-1 in Chapter 3.11). Therefore, the water supply needs of the project have been accounted for in long-range planning efforts.

In addition, the project would incorporate, install, and maintain water-efficient and water-saving features throughout the project site, including within buildings, in accordance with all applicable requirements and standards. Landscaping and the irrigation system would be designed with drought tolerant native and Mediterranean plant species to the extent feasible. The irrigation system would also utilize weather-based controllers to avoid excessive water usage during times of rainfall or moderate temperatures. Residential buildings, amenity buildings, and ancillary facilities would also be equipped with plumbing fixtures that would substantially reduce water consumption with installation of high-performance low flow toilets, faucets, and showerheads that use approximately 20 percent less water than standard fixtures, in accordance with all applicable requirements and standards.

As discussed in the Environmental Setting, based on the population and employment projections in the Santa Rosa General Plan 2035, the 2015 UWMP prepared by the City determined that there

²⁶ City of Santa Rosa. 2015 Urban Water Management Plan (2015 UWMP), page 6-20.

would be sufficient supply to serve the total demand for the City through 2040, including during normal year, single-dry year and multiple-dry year scenarios. Additionally, pursuant to SB 610, the City prepared a WSA for the Santa Rosa General Plan 2035 to analyze total projected water supply sufficiency through 2028, concluding that demand from the Santa Rosa General Plan 2035 buildout, which includes the project, would be met with the existing and planned Sonoma Water supply source and City groundwater supply sources. Accordingly, adequate water supplies would be available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years from existing and planned supplies. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Wastewater Treatment Capacity

Impact UTIL-3:	The proposed project would not result in a determination by the wastewater treatment provider, which serves or may serve the project, that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
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This project could have a significant impact if it creates a need for new or expanded wastewater treatment capacity and facilities. However, an on-site private sewer system is proposed as described below.

Private On-site Sewer System

The proposed sewer system for Elnoka CCRC project will be privately owned and maintained. To avoid disturbance of Melita Creek, the portions of the existing sewer systems previously constructed as part of the Three Bridges Subdivision, in two locations under Melita Creek, is proposed to be utilized using a method to be approved by the City Utility Department. Proposed concepts to remediate this existing line, as approved by the City Utility Department, would be pipe bursting and pulling of a new continuous length of high-density polyethylene (HDPE) sewer line through the existing old line or slip lining of the existing sewer. All other existing sewer lines and structures, outside of the creek areas, previously constructed by the Three Bridges Subdivision will be removed or abandoned in place with new sewer mains constructed to serve the proposed use. Many of the proposed units on the north side of the existing ridge line are designed to gravity flow to a proposed private on-site lift station on the north side of the project, which will pump the sewage back to a portion of the proposed on-site gravity system which flows west and will connect to the City's existing 8-inch sanitary sewer line in Melita Road. It is proposed that the private sewer collection system serving the portion of the project located south of the ridgeline and north of Oakmont Creek will also be served by a second private lift station on the north side of Oakmont Creek, which will

pump sewage north and west to discharge to the City's 8-inch gravity sewer in Melita Road. Sewage from the units between Oakmont Creek and the south property line will gravity flow to the City's 18-inch Oakmont trunk sewer that runs in an easement on the property along the south side of the project area. The on-site sewage collection system and the two lift stations will be privately owned and maintained. Refer to Chapter 2, Project Description, Exhibit 2-10a through Exhibit 2-10e for utility plans of the proposed sewer alignment.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Landfill Capacity

Impact UTIL-4: The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

The project could have a significant impact if it generated solid waste in excess of State or local standards or in excess of the capacity of local infrastructure, including landfill capacity. The closest landfill to the project site, Redwood Sanitary Landfill in Novato, has a permitted daily capacity of 2,300 tons and a total remaining permitted capacity of 26 million tons through 2024. For planning purposes, CalRecycle provides a standard residential solid waste generation rate of 12.23 pounds per household per day and a standard generation rate of 5 pounds per person per day for nursing homes.²⁷ Applying these rates, the project's 74 cottages, 528 apartments, and 12 employee housing units would generate approximately 7,510 pounds of solid waste per day,²⁸ while the 62 care center residents would generate approximately 310 pounds of solid waste per day. The project does not include any uses that would create unusual or unreasonable amounts of solid waste. Table 3.15-9 summarizes the project's operational solid waste generation.

Table 3.15-9: Project Operational Solid Waste Generation

Land Use	Size	Approximate Waste Generation Rate	Approximate Waste Generation	
			Daily Total (tons)	Annual Total (tons)
Residential	614 units	12.23 pounds/unit/day	3.75	1,368.75
Nursing Home	62 units	5 pounds/unit/day	0.15	54.75

²⁷ California Department of Resources Recycling and Recovery (CalRecycle). Estimated Solid Waste Generation Rates. Website: <https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates>. Accessed on November 21, 2017.

²⁸ Given that residents of the proposed independent living units would be seniors without children, the standard residential rate of 12.23 pounds per household per day represents a conservative estimate of solid waste generated on-site.

Land Use	Size	Approximate Waste Generation Rate	Approximate Waste Generation	
			Daily Total (tons)	Annual Total (tons)
Total	—	—	3.90	1,423.5
Notes: Source: California Department of Resources Recycling and Recovery (CalRecycle). 2015. Estimated Solid Waste Generation.				

This combined total of approximately 7,820 pounds of solid waste per day from the project represents approximately 0.17 percent of the nearest landfill's permitted daily average. As described above, the project is consistent with Santa Rosa General Plan 2035 buildout projections, and, therefore, the solid waste disposal needs of the project have been accounted for in long-range planning efforts. As such, there would be adequate capacity to serve the project beyond full buildout. Additionally, continued implementation of Santa Rosa General Plan 2035 Policies PSF-H-1 through PSF-H-6 that promote waste reduction, recycling, and public education would reduce solid waste generation throughout Santa Rosa, including the project site. Therefore, there is sufficient capacity to accommodate the project's projected solid waste generation and the project would not impair the attainment of solid waste reduction goals. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Compliance with Solid Waste Regulations

Impact UTIL-5: The proposed project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

A significant impact would occur if the project would conflict with federal, State, or local management and reduction statutes and regulations related to solid waste.

The City has not adopted a construction and demolition debris ordinance. However, per City Code 9-14, any franchised construction and demolition debris hauler is required to recycle 50 percent of all construction and demolition debris collected within the City. In addition, the franchisee is required to comply with as performance standards as determined by the City to insure protection of the public health, safety and welfare. As such, the project's construction would be required to comply with management and reduction statutes and regulations related to solid waste.

Santa Rosa General Plan 2035 includes policies intended to reduce solid waste generation and promote recycling in residential developments, consistent with the requirements of California Integrated Waste

Management Act. In particular, the project would be required to comply with Santa Rosa General Plan 2035 Policy PSF-H-4, requiring the provision of convenient recycling bins and trash enclosures.

According to the City of Santa Rosa 2019 Zero Waste Master Plan, Santa Rosa currently has an overall 34 percent waste diversion rate. Per the Zero Waste Master Plan, the City's goal is to reduce landfill disposal to less than 1 pound per person per day of franchised waste and achieve at least 75 percent diversion of franchised waste from landfill disposal by 2030.²⁹

As described above, the project is consistent with Santa Rosa General Plan 2035 buildout projections, and, therefore, the solid waste disposal needs of the project have been accounted for in long-range planning efforts. Furthermore, the project would be required to abide by all applicable solid waste and recycling regulations. Therefore, the project would comply with local, State, and federal regulations related to solid waste, and associated impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.15.5 - Cumulative Impacts

The geographic scope of the cumulative utilities analysis is the service area of each of the providers serving the cumulative projects identified in Chapter 3, Environmental Impact Analysis, Table 3-1, Cumulative Projects, as well as other relevant cumulative projects as required by CEQA. Because of differences in the nature of the utility service areas, they are discussed separately.

Water

The geographic scope of the cumulative potable water analysis is the service area of the Santa Rosa Water Department, which provides potable water to residents and businesses within the city limits. Water in unincorporated areas generally is provided by individual wells.

The project would require the connection of approximately 676 residential units as well as related amenities and auxiliary uses to the City's water system. Demand also would be generated by the project's care facility and landscaping. It is estimated that the project would use approximately 167.4 acre-feet of water annually. Cumulative projects listed in Table 3-1 (refer to Chapter 3, Environmental Impacts Analysis, Table 3-1, Cumulative Projects), as well as other relevant cumulative projects as required by CEQA, are located within the Santa Rosa Water Department's service area and would create water supply demand. The cumulative projects located within the City of Santa

²⁹ City of Santa Rosa. 2019. Zero Waste Master Plan. Website: <https://srcity.org/DocumentCenter/View/23532/Draft-Zero-Waste-Plan>. Accessed November 4, 2019.

Rosa water service area would result in 149 new single-family homes as well as 43,200 square feet of commercial retail space. Table 3.15-10 summarizes the cumulative projects' water demand.

Table 3.15-10: Project Water Demand

Land Use Type	Quantity	Units	Water Demand Rate ¹	Water Demand
				Annual (acre-feet)
Low Density	149	Dwelling Units (du)	0.0008 acre-feet/unit/day	43.5
Commercial Retail	43,200	Square-Feet	1.7 acre-feet/acre/year	1.7
Total				45.2
Note: ¹ City of Santa Rosa Water Master Plan Update. Page 11, Table 2-8, Table 2-11. Website: http://srcity.org/DocumentCenter/Home/View/13857 . Source: FirstCarbon Solutions (FCS). 2018.				

Cumulative project water demand would represent less than one percent of the City's total water supply of 29,100 AFY. Based on the population and employment projections in the Santa Rosa General Plan 2035, the 2015 UWMP prepared by the City determined that there would be sufficient supply to serve the total demand for the City through 2040, including during normal year, single-dry year and multiple-dry year scenarios. In addition, the project, along with other projects listed in Table 3-1, would be required to comply with provisions of the City Code related to water conservation. As such, the project, in conjunction with other projects in Santa Rosa, would not have a cumulative significant impact related to water supply. Therefore, the project, in conjunction with other existing, planned, and probable future projects, would not have a cumulatively significant impact related to potable water supply.

Wastewater

The geographic scope of the cumulative wastewater analysis is the service area of the City of Santa Rosa Utilities Department, Sewer Division, which provides wastewater collection and treatment services for City residents and businesses. In unincorporated areas, individual or group septic systems generally are used.

Owned and operated by the City of Santa Rosa, the Laguna Treatment Plant provides an average daily dry weather flow of 17.5 mgd with a maximum permitted capacity of approximately 21.34 mgd. This leaves 3.84 mgd available for treatment to accommodate future growth. The project is estimated to generate approximately 51,000 gallons per day of wastewater, or approximately 0.051 mgd. The project's estimated wastewater generation represents approximately 0.3 percent of the Laguna Treatment Plant's existing daily dry weather flow and approximately 0.2 percent of the maximum permitted flow. It is anticipated that the projects listed in Table 3-1 that are located in the City's service area, as well as other relevant cumulative projects as required by CEQA, would each generate similar volumes of wastewater, and in most cases would contribute less because they would have fewer residential units. As a result, the remaining capacity of the Laguna Treatment Plant would be sufficient

to serve the project and cumulative projects. In addition, as indicated, the City intends to increase the capacity of the plant to 25.79 mgd by 2025, with 18.25 mgd allocated to the City.³⁰ Therefore, the project, in conjunction with other existing, planned, and probable future projects in the City, would not have a cumulatively significant impact related to wastewater. Projects in the County would be required to arrange for their own wastewater disposal in accordance with applicable state and county regulations.

Storm Drainage

The geographic scope of the cumulative storm drainage analysis is the areas that drain to the City's storm drainage system and to Melita Creek. County development generally relies on percolation into the ground or on a system of collection ditches and stream channels.

The majority of projects in Table 3-1, as well as other relevant cumulative projects as required by CEQA, are located in more urban areas and would be served by municipal storm drainage systems that likely do not flow to Melita Creek. All cumulative projects would be required to obtain coverage under the Construction General Permit from the State Water Board, which would require preparation of a SWPPP that would control potential discharges of contaminants. Operations of these cumulative projects would be required to comply with the North Coast RWQCB NPDES permit and City of Santa Rosa regulations. Consistent with applicable measures in the LID Manual, the project and all cumulative projects would be required to incorporate BMPs, such as stormwater retention basins and bioswales, into the development in accordance with applicable standards and requirements, which would reduce the volume and velocity of runoff. Moreover, approximately 24 percent of the project site would remain undisturbed natural open space and an additional approximately 34 percent would be landscaped, providing permeable surfaces that allow groundwater recharge. This would further reduce the amount of storm drainage that leaves the project site. Therefore, the project, in conjunction with other existing, planned, and probable future projects, would not have a cumulatively significant impact related to storm drainage.

Energy, Natural Gas, and Telecommunication Facilities

The geographic scope of the energy, natural gas facilities, and telecommunications analysis is the service area of each facility provider. PG&E provide energy and natural gas services throughout Northern California, including the City of Santa Rosa and Sonoma County. Xfinity and AT&T provides telecommunications service throughout the City of Santa Rosa and Sonoma County.

The cumulative projects in Table 3-1, as well as other relevant cumulative projects as required by CEQA, are located in urbanized areas where utility facilities already exist. As a result, new utility transmittal facilities would not be required. Any new facility connections proposed as part of those projects would be analyzed and mitigated for under CEQA and as part of the City of Santa Rosa design review process. Likewise, the project's construction impacts of installing such infrastructure are studied and mitigated under more impact-specific chapters (i.e., Air Quality in Section 3.3, Biological Resources in Section 3.4, GHG Emissions in Section 3.7, Noise in Section 3.11, and Transportation in Section 3.15.). Therefore, the project, in conjunction with other future projects,

³⁰ City of Santa Rosa. 2009. General Plan 2035 Draft EIR. Website: <https://ca-santarosa.civicplus.com/392/General-Plan>. Accessed April 6, 2017.

would not have a cumulatively significant impact related to energy, natural gas, and telecommunication facilities.

Solid Waste

While solid waste and recycling collection services for the project site would be provided by Recology, the geographic scope of the cumulative solid waste analysis is Sonoma County, which operates solid waste landfills and oversees regional waste diversion programs.

The cumulative projects listed in Table 3-1, as well as other relevant cumulative projects as required by CEQA, would generate additional solid waste as summarized in Table 3.15-11.

Table 3.15-11: Cumulative Operational Solid Waste Generation

Land Use	Size	Approximate Waste Generation Rate	Approximate Waste Generation	
			Daily Total (tons)	Annual Total (tons)
Residential	149 units	12.23 pounds/unit/day	0.91	332.56
Commercial Retail	43,200 square feet	5 pounds/1 000 square feet/day	0.11	39.42
Hotel	50 units	4 pounds/day	0.10	36.5
Restaurant	125-seat	1 pound/seat/day	0.06	21.9
Total	—	—	1.18	97.82

Source: California Department of Resources Recycling and Recovery (CalRecycle). 2015. Estimated Solid Waste Generation.

The project is anticipated to generate approximately 2,404 pounds of solid waste per day. The closest landfill, Redwood Sanitary Landfill in Novato, has a permitted daily capacity of 2,300 tons and a total remaining total permitted capacity of 26 million tons through 2039. The anticipated waste volume of the project and cumulative projects' solid waste represents approximately 0.5 percent of the landfill's permitted daily capacity. Additionally, the project and cumulative projects' annual solid waste generation represent less than one percent of permitted capacity. As such, sufficient capacity is available to serve the project as well as existing, planned, and probable future land uses in the County for the foreseeable future.

The winery projects may generate more solid waste, particularly organic wastes, but they are not anticipated to have a significant impact on landfill capacity. Additionally, State and county regulations encourage waste diversion through recycling and composting, among other activities. These activities are encouraged in both the County and the cities. Given the above information, the project, in conjunction with other future projects, would not have a cumulatively significant impact related to solid waste.

Overall

Overall, cumulative utilities and service systems impacts would be less than significant since the cumulative need for water supply and electricity and for disposal of wastewater and solid waste impacts would be less than significant.

Level of Cumulative Significance Before Mitigation

Less than significant impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant impact.

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3.16 - Wildfire

3.16.1 - Introduction

This section describes the existing wildfire conditions in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to wildfire that could result from implementation of the proposed project. Information in this section are based on information provided by the Santa Rosa General Plan, California Department of Forestry and Fire Protection (CAL FIRE), and the Santa Rose Fire Department (SRFD). During the Environmental Impact Report (EIR) scoping period, the following comments were received related to Wildfire:

- Fire hazards due to proximity to Trione-Annadel State Park

Environmental Setting

Wildfire Hazard Area Designations

Sonoma County

According to the CAL FIRE Fire Hazard Severity Zones State Responsibility Areas (SRAs) Map¹, a great deal of Sonoma County is mapped as a moderate, high, or very high fire hazard zone. The nearest very high fire hazard zone in an SRA area in proximity to the project site lies approximately 0.25-mile to the northeast across Sonoma Highway. Furthermore, Trione-Annadel State Park, located abutting the project site to the south is identified as an SRA high fire hazard zone. Additional SRA Fire Hazard Zones identified as high and moderate risk are also identified within 0.25-mile of the project site on both sides of Sonoma Highway. According to the Sonoma County General Plan Figure PS-1g and the City of Santa Rosa Wild land Urban Interface (WUI) fire hazard map, the project site is not located within a very high fire hazard zone; however, the site is identified within the WUI Zone.²

Santa Rosa

According to the CAL FIRE Very High Fire Hazard Severity Zones in Local Responsibility Areas (LRAs) Map³ of the City of Santa Rosa, there are several areas of LRA very high fire hazard in the eastern and southern portions of the City, including along the Sonoma Highway corridor. However, the project site is not located in a of the LRA very high fire hazard zones. The nearest LRA very high fire hazard zone to the project site is 0.25-mile to the southeast. As indicated by the WUI Area Map, the project site is located in the WUI Fire Area.⁴

Project Site

The project site contains significant vegetation and some areas that are used for storing landscape equipment for the Oakmont neighborhood. As previously indicated, the project site is located in the

¹ California Department of Forestry and Fire Protection (CAL FIRE). 2020. Fire Hazard Severity Zones State Responsibility Areas. Website: https://osfm.fire.ca.gov/media/6822/fhszs_map49.pdf Accessed March 22, 2020.

² Mike Hargreaves. 2009. City of Santa Rosa Information Technology. Wildland—Urban Interface Fire Area Map. Accessed: October 7, 2019. Website: <https://www.srcity.org/DocumentCenter/View/4775>.

³ California Department of Forestry and Fire Protection (CAL FIRE). 2020. Very High Fire Hazard Severity Zones in Local Responsibility Areas. Website: https://osfm.fire.ca.gov/media/6820/fhszl_map49.pdf Accessed March 22, 2020.

⁴ Mike Hargreaves. 2009. City of Santa Rosa Information Technology. Wildland—Urban Interface Fire Area Map. Accessed: October 7, 2019. Website: <https://www.srcity.org/DocumentCenter/View/4775>.

WUI Fire Area as delineated by the City. The CAL FIRE map “Very High Fire Hazard Severity Zones in LRA” shows that the project site is not located in a very high fire hazard zone. However, a very high fire hazard area is located further to the southeast adjacent to the exiting Oakmont development.⁵ The project site is in proximity to the burn areas of the 2017 Nuns and Tubbs Fires, and the 2020 Glass Fire. The project site was impacted by the recent Glass Fire, which destroyed the three vacant single-family residences on the site. In addition, the Glass Fire burned significant portions of nearby Trione-Annadel State Park, parts of Hood Mountain Regional Park, and a triplex in the neighboring Oakmont community while also threatening to burn the rest of the homes in the Oakmont community.⁶

Wildfire-conducive Conditions

Because of substantial open space areas and associated vegetation and wildlife habitats throughout the state, California is subject to fire hazards. Grassland or other vegetation in California is easily ignited, particularly in dry seasons. Wildfire is a serious hazard in high dry fuel load areas, particularly near areas of natural vegetation and steep slopes, since fires tend to burn more rapidly on steeper terrain. Wildfire is also a serious hazard in areas of high wind, given that fires will travel faster and farther geographically when winds are higher. Furthermore, wildfire is more likely in areas where electric power lines are located above ground and could ignite vegetation where it comes into contact.

Sonoma County

Land uses in Sonoma County range from rural, agricultural, and open space; to urban and developed. As previously noted, according to the CAL FIRE Fire Hazard Severity Zones SRA Map, much of Sonoma County is located in moderate, high and very high fire hazard zones due to the terrain and natural vegetation. In particular, areas where a great deal of open space exists are at an increased risk of wildfire. Areas specifically subject to moderate, high, and very high fire hazards in the county include the Trione-Annadel State Park, located south of the project site; and the Hood Mountain Regional Park and Sugarloaf Ridge State park, located east of the project site.

City of Santa Rosa

The City of Santa Rosa contains mostly urbanized areas and contains only small areas designated as very high wildfire risk zones, which are located in the eastern and southern portions of the city near to the project site as previously noted. Conditions conducive to fire include low humidity levels, wind speed and direction, slope, and temperature. According to the National Oceanographic and Atmospheric Administration (NOAA) and the National Air and Space Administration (NASA), data analyzed between January 1, 1980, and December 31, 2016, indicate that the average wind speed in the City of Santa Rosa is between approximately 6 and 10 miles per hour (mph).⁷

⁵ California Department of Forestry and Fire Protection (CAL FIRE). 2008. Very High Fire Hazard Severity Zones in LRA, Santa Rosa.

⁶ Austin Murphy. Press Democrat. October 23, 2020. Website: <https://www.pressdemocrat.com/article/news/oakmont-residents-endure-another-slow-fire-evacuation-with-traffic-jam-on-h/?sba=AAS>

⁷ Weatherspark. NOAA. NASA. 2016. Average Weather in Santa Rosa, California, United States. Website: <https://weatherspark.com/y/625/Average-Weather-in-Santa-Rosa-California-United-States-Year-Round#Sections-Sources>. Accessed September 25, 2019.

Post-fire Slope Instability and Drainage Pattern Changes

Wildfire scarring of the landscape can result in slope instability in the form of more intensive flooding and landslides. These post-fire slope soils and altered drainage patterns can more easily creep away downslope sides of foundations and reduce lateral support.

Santa Rosa

The major post-wildfire hazards in Santa Rosa are unstable hill slopes and altered drainage patterns. Slopes may suffer landslides, slumping, soil slips, and rockslides. Santa Rosa's General Plan historically have recognized that major slope areas near the Rodger's Creek Fault are at more risk of landslide impacts.⁸ Figure 12-3 of the Santa Rosa General Plan 2035 shows Landslide Hazards in City. The most recent fires in Santa Rosa were the Tubbs and Nuns Fires.

Project Site

According to Figure 12-3 of the Santa Rosa General Plan 2035, the project site is located on a site susceptible to landslides or an area where landslides previously occurred. Specifically, the southwest portion of the project site adjacent to Santa Rosa Creek has experienced previous landslide activity. The drainage pattern on the project site has not been previously altered due to a fire event and generally drains toward Santa Rosa Creek or Melita Creek. As described previously, the Glass Fire destroyed the three vacant single family residences on site.

Emergency and Evacuation Routes/Access

Sonoma County

The Sonoma County Emergency Alert System (SoCoAlert) provides Sonoma County residents with information pertaining to evacuations, shelters, and other hazard related services. The County Emergency system provides "Red Flag Warnings" that warns residents and others about the potential for wildfire. SoCoAlert notifies Sonoma County residents, including Santa Rosa, by phone, email, or text and contact methods can be selected by residents.⁹

SoCoAlert is an option in emergency alert system that is used in addition to other recognized emergency alert systems such as WEA and EAS. The use of these alerting tools may include evacuation notifications, shelter-in-place orders, boil water advisories, tsunami warnings, and flood warnings. A red flag warning is not issued through SoCoAlert, WEA or EAS, those messages are pushed through channels that include Nixle, Social Media and internet.¹⁰

City of Santa Rosa

The City of Santa Rosa Fire Department is responsible for planning, outreach, and training or disaster management and emergency preparedness within the City. The Fire Department provides emergency information to residents through emergency updates and via the website. Evacuation routes throughout the City consist of major freeways and surface streets including Sonoma Highway.

⁸ City of Santa Rosa. 2009. Santa Rosa General Plan 2035, page 12-3.

⁹ Sonoma County Emergency Alert System (SoCoAlert). 2020. Website: <https://socoemergency.org/home/prepare/stay-informed/socoalert/>.

¹⁰ City of Santa Rosa-srcity.org/Emergency.

Project Site

The main route away from the project site is the Sonoma Highway, which runs along the northeast side of the property. This would likely represent the main east/west evacuation route for any occupants on the project site. In addition, the proposed project's access point at Melita Road would provide an ingress and egress route. According to the City of Santa Rosa, the evacuation routes from the project site would be from Sonoma Highway, Calistoga Road, and Montgomery Drive.¹¹

3.16.2 - Regulatory Framework

Federal

United States Department of Interior

Review and Update of the 1995 Federal Wildland Fire Management Policy

1. **Safety**—Firefighter and public safety is the first priority. All Fire Management Plans and activities must reflect this commitment
2. **Fire Management and Ecosystem Sustainability**—The full range of fire management activities will be used to help achieve ecosystem sustainability, including its interrelated ecological, economic, and social components
3. **Response to Wildland Fire**—Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale, and across agency boundaries. Response to wildland fire is based on ecological, social, and legal consequences of the fire. The circumstances under which a fire occurs, and the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected dictate the appropriate management response to the fire.
4. **Use of Wildland Fire**—Wildland fire will be used to protect, maintain, and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved Fire Management Plans and will follow specific prescriptions contained in operational plans.
5. **Rehabilitation and Restoration**—Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health, and safety, and to help communities protect infrastructure.
6. **Protection Priorities**—The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.
7. **Wildland Urban Interface**—The operational roles of federal agencies as partners in the Wildland Urban Interface are wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, State, or local governments. Federal agencies may assist with

¹¹ City of Santa Rosa. Evacuation Planning Areas: Melita Area. <https://srcity.org/3175/Evacuation-Routes-and-Information>.

exterior structural protection activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding. (Some federal agencies have full structural protection authority for their facilities on lands they administer, and may also enter into formal agreements to assist State and local governments with full structural protection.)

8. **Planning**—Every area with burnable vegetation must have an approved Fire Management Plan. Fire Management Plans are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved land management plan. Fire Management Plans must provide for firefighter and public safety; include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and be consistent with resource management objectives, activities of the area, and environmental laws and regulations.
9. **Science**—Fire Management Plans and programs will be based on a foundation of sound science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical, and sociological factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results must be made available to managers in a timely manner and must be used in the development of land management plans, Fire Management Plans, and implementation plans.
10. **Preparedness**—Agencies will ensure their capability to provide safe, cost-effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, equipment, and management oversight.
11. **Suppression**—Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives.
12. **Prevention**—Agencies will work together and with their partners and other affected groups and individuals to prevent unauthorized ignition of wildland fires.
13. **Standardization**—Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values-to-be-protected methodologies, and public education programs for all fire management activities.
14. **Interagency Cooperation and Coordination**—Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.
15. **Communication and Education**—Agencies will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.
16. **Agency Administrator and Employee Roles**—Agency administrators will ensure that their employees are trained, certified, and made available to participate in the wildland fire

program locally, regionally, and nationally as the situation demands. Employees with operational, administrative, or other skills will support the wildland fire program as necessary. Agency administrators are responsible and will be held accountable for making employees available.

17. **Evaluation**—Agencies will develop and implement a systematic method of evaluation to determine effectiveness of projects through implementation of the 2001 Federal Fire Policy. The evaluation will assure accountability, facilitate resolution of areas of conflict, and identify resource shortages and agency priorities.

State

California Emergency Response Plan

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Responding to hazardous-materials incidents is one part of this plan. The plan is administered by the California Governor's Office of Emergency Services, which coordinates the responses of other agencies. When Sonoma County experiences an emergency, an Emergency Operations Center may be opened. In the event an Emergency Operations Center is opened, emergency response team members coordinate efforts and work with local fire and police agencies, emergency medical providers, the California Highway Patrol, CAL FIRE, California Department of Fish and Wildlife, and California Department of Transportation (Caltrans).

California Department of Forestry and Fire Protection Threat Potential Mapping

CAL FIRE has mapped fire threat potential throughout California. CAL FIRE maps fire threat based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The threat levels include no fire threat, moderate, high, and very high fire threat. Additionally, CAL FIRE produced a 2019 Strategic Fire Plan for California, which contains goals, objectives, and policies to prepare for and mitigate the effects of fire on California's natural and built environments. The CAL FIRE Office of the State Fire Marshal provides oversight of enforcement of the California Fire Code as well as overseeing hazardous liquid pipeline safety.

California Building Code

The State of California provided a minimum standard for building design through the California Building Standards Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations. The CBC is based on the most recent International Building Code, but has been modified for California conditions. It is generally adopted on a jurisdiction by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local City and county building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all new high-rise buildings and residential buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction.

California Public Resources Code

The California Public Resources Code includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors¹² on construction equipment that use an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on-site for various types of work in fire-prone areas.

These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (Public Resources Code [PRC] § 4442);
- Appropriate fire suppression equipment would be maintained during the highest fire danger period—from April 1 to December 1 (PRC § 4428);
- On days when a burning permit is required, flammable materials would be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor would maintain the appropriate fire suppression equipment (PRC § 4427);
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines would not be used within 25 feet of any flammable materials (PRC § 4431); and
- A person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, is subject to Public Resources Code Section 4291 as (Amended by Stats. 2018, Ch. 641, Sec. 7. [AB 2911] Effective January 1, 2019.)

Regional

Association of Bay Area Governments Hazard Mitigation Plan

The Association of Bay Area Governments (ABAG) multijurisdictional Local Hazard Mitigation Plan (LHMP) for the San Francisco Bay Area was updated in 2010 in partnership with the Bay Conservation and Development Commission (BCDC) Adapting to Rising Tides Program to support local governments in the regional plan for existing and future hazards of climate change. This detailed 5-year plan identifies potential natural and human-made hazards, assesses their potential risks, and includes mitigation methods to reduce risks. The potential hazards identified in the plan include earthquakes and liquefaction, wildfires, floods, drought, solar storms, dam or levee failure, disease outbreak, freezes, wind, heat, thunder and lightning storms, siltation, tornadoes, hazardous materials, slope failure and mudflows, and other hazards. Similarly, mitigation measures include hazard event planning, emergency preparedness coordination, education, facility upgrades, and monitoring actions.

¹² A spark arrestor is any device that prevents the emission of flammable debris from a combustion source (i.e. fireplaces, internal combustion engines, and wood burning stoves).

Local**City of Santa Rosa General Plan 2035**

The City of Santa Rosa General Plan 2035 establishes the following goals and policies related to wildfire hazards that are relevant to this analysis:

Wildland fires

- **NS-G: Minimize the potential for wildland fires.**
- **NS-G-1:** Require proposed developments in the Wildland Urban Interface zone, including the Very High Fire Hazard Severity zone, to investigate a site's vulnerability to fire and to minimize risk accordingly.
- **NS-G-2:** Require new development in Wildland Urban Interface areas to utilize fire resistant building materials. Require the use of on-site fire suppression systems, including enhanced automatic sprinklers systems, smoke and/or detection systems, buffers and fuel breaks, and fire resistant landscaping. Require development and ongoing implementation of vegetation management plans to reduce the risk of wildland fires and to help prevent fires from spreading.
- **NS-G-3:** Prohibit untreated wood shake roofs in Wildland Urban Interface areas.
- **NS-G-4:** Continue monitoring water fire-flow capabilities throughout the city and improving water availability at any locations having flows considered inadequate for fire protection.
- **NS-G-5:** Require detailed fire prevention and control measures, including community fuel breaks, for development projects in the Wildland-Urban Interface, including very high fire hazard severity zones.
- **NS-G-6:** Minimize single-access residential neighborhoods in development areas near open space, and provide adequate access for fire and other emergency response personnel.

Santa Rosa City Code

Chapter 18.44 of the Santa Rosa City Code establishes requirements for projects to comply with the California Fire Code. It also identifies the City's amendments to the Fire Code to reflect local conditions. Regulations specific to the storage of hazardous materials are included in Chapter 18.44, along with permit requirements. Section 18.44-5308 directs that the Fire Code Official shall publish standards providing requirements for facilities that use, handle, or store materials that are or may become toxic gases. Chapter 11-32, Hazardous Materials, establishes requirements for the transport of hazardous materials. Furthermore, Chapter 49 - Requirements for Wildland-Urban Interface Fire Areas (WUIFA), specifies compliance requirements for properties located within areas that have been identified locally as being within a WUIFA.

City of Santa Rosa Emergency Operations Plan

The Draft Emergency Operations Plan identifies the City's emergency planning, organization, and response policies and procedures. The plan also addresses the integration and coordination with other governmental levels and special districts as required. This plan is based on the principles and functions of the California-required Standardized Emergency Management System (SEMS), which is based on the FIRESCOPE Incident Command System and identifies how the City of Santa Rosa fits in

the overall state SEMS structure. In addition, the plan incorporates the additional required elements of the National Incident Management System as directed by Homeland Security Presidential Directive 5, issued February 28, 2003.

City of Santa Rosa Local Hazard Mitigation Plan

The LHMP identifies the capabilities, resources, information, strategies for risk reduction, and critical facilities, as well as providing guidance for and coordination of mitigation actions, all of which are important for the City to reduce its vulnerability to disasters. The City of Santa Rosa has developed this plan to ensure that hazard profiles reflect current conditions and best available science, that policies in the plan are consistent with current City standards and/or other relevant federal, State, or regional regulations, and that the City has an updated plan consistent with Federal Emergency Management Agency (FEMA) requirements. The LHMP provides a set of strategies to reduce vulnerability to disaster through education and outreach programs, the development of partnerships, and implementation of actions to reduce the of impacts from a disaster.

The City of Santa Rosa Local Hazard Mitigation Plan:

- Establishes a basis for coordination and collaboration among participating private entities and public agencies, and key stakeholders;
- Identifies and prioritizes future mitigation projects; and
- Meets the requirements of federal assistance grant programs, including FEMA’s Hazard Mitigation Grant Program and Pre-Disaster Mitigation funding.
- Works in conjunction with other plans, including the City’s General Plan 2035.
- In December of 2017 following the Tubbs Fire, the Fire Department submitted a grant application that was awarded in 2018 to develop a Community Wildfire Protection Plan (CWPP). The plan was written in 2019 and finished in 2020, with a formal presentation to the City Council on August 25, 2020. The plan was unanimously approved by the City Council concluding the presentation. In an effort to reduce the wildfire threat to the City, this plan was developed and intended to be an Annex to the Wildfire section of the Local Hazard Mitigation Plan. The CWPP builds upon the October 2016 City of Santa Rosa Local Hazard Mitigation Plan providing more site specific wildfire assessments and an action pan to address the wildfire threat to the City. This plan meets the requirements of both FEM’s Core Capabilities and the 2003 Healthy Forests Restoration Act (HFRA) and provides the City with tools that, if implemented, can enhance the protection of life safety and improve the resiliency of structures, critical infrastructure and other asses from wildfire. This plan is the result of a Community-wide planning effort to quantify and evaluate the wildfire threat to the City and develop hazard mitigation strategies that enhance protection of life safety and other community assets from wildfire. Using the latest wildfire science and community input serves to guide future wildfire mitigation actions by all stakeholders in their efforts to reduce the future wildfire threat. The plan will be updated each 5 years moving forward, next update of the plan to take place in 2025.

3.16.3 - Methodology

This evaluation focuses on whether the proposed project would result in changes to the physical environment that would cause or exacerbate adverse effects related to wildfires or whether the proposed project would be placed in a location susceptible to wildfire or post-wildfire conditions. The evaluation also includes a determination of whether the changes to the physical environment caused by the proposed project would impair or interfere with emergency response plans, expose people to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, expose people/structures to downslope flooding or landslides, or include the installation or maintenance of infrastructure that may exacerbate fire risk. The following analysis is based, in part, on information provided by the City of Santa Rosa General Plan 2035, CAL FIRE website, and correspondence with the SRFD.

3.16.4 - Thresholds of Significance

According to the California Environmental Quality Act (CEQA) Guidelines' Appendix G Environmental Checklist, to determine whether wildfire impacts would be considered significant from implementation of the proposed project, the following questions are analyzed and evaluated.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan?
- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

3.16.5 - Project Impacts and Mitigation Measures

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

Emergency Response/Evacuation Plan Consistency

Impact WILD-1:	The proposed project could substantially impair an adopted emergency response plan or emergency evacuation plan.
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Impact Analysis

The City of Santa Rosa LHMP identifies ways to mitigate impacts in Santa Rosa during a disaster. The LHMP designates emergency evacuation routes, including U.S. Route 101 and Sonoma Highway.¹³ Implementation of the LHMP could reduce potential impacts to the project site that could occur during a disaster. Consistent with the adopted emergency response plan, the Santa Rosa Department of Emergency Management would coordinate emergency responses in the City and work with local fire and police agencies, emergency medical providers, CHP, CAL FIRE, California Department of Fish and Wildlife, and Caltrans. In addition, the City would maintain its Emergency Operations Plan per General Plan 2035 Policy NS-A-1. However, the proposed project would result in higher traffic volumes on Sonoma Highway, including in the event of a disaster requiring emergency evacuation. Furthermore, the proposed project could require relocation of a large elderly population associated with the proposed care facility during a disaster. Without an official evacuation plan, in the event of relocating the project population, significant emergency response personnel may be required, and Sonoma Highway could become severely congested in the project vicinity. As such, the proposed project could interfere with an emergency response or evacuation plan by requiring additional resources and causing additional vehicular traffic on an evacuation route (Sonoma Highway), a potentially significant impact.

As a result, Mitigation Measure (MM) HAZ-4 is required, which would ensure the project applicant prepare an emergency evacuation plan with review from the SRFD. The evacuation plan would ensure that the proposed project is adequately prepared to respond to a large scale emergency, such as a wildfire, and prevent interference with an emergency response or evacuation plan. As indicated in Section 3.12, Public Services, Impact PUB-1, and PUB-2, the proposed project would be adequately served by police and fire services, including respective evacuation or emergency vehicle access. Additionally, the proposed project would not create a permanent increase in population unaccounted for in the Santa Rosa General Plan 2035 that could lead to overwhelming call for emergency services under typical circumstances. Further, the proposed project would be designed in accordance with the City's standards to accommodate emergency vehicle access by providing two points of access to the project site, one access point via Sonoma Highway and one via Melita Road, that would be available to emergency vehicles. In addition, with the City's update to the SRFD long-range plan assessing the need for an additional fire station, on-site evacuation routes and procedures to be identified via MM HAZ-4, and adherence to the City's LHMP and Emergency Operation Plan, impacts related to implementation of an emergency response or evacuation plan would be less than significant with mitigation incorporated.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM WILD-1 Construction of the Elnoka CCRC project is planned in multiple phases. Prior to building permit issuance at each phase, an updated evacuation plan and map shall be prepared and submitted for review by Traffic Engineering and the Fire

¹³ City of Santa Rosa. 2017. Local Hazard Mitigation Plan. January. Page 19.

Department. The map should include an open and accessible street network that provides access to both Sonoma Highway and Montgomery Drive. Once City staff have completed their respective reviews, an updated plan shall be distributed to every existing Elnoka CCRC residence as well as to new occupants when keys are provided.

Level of Significance After Mitigation

Less than significant impact.

Expose Project Occupants to Pollutant Concentrations from Wildfire

Impact WILD-2:	The proposed project would not exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
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Impact Analysis

The project site is located in the WUI Fire Area as delineated by the City, where wildlands are located both in and adjacent to the project site.¹⁴ Slopes on the project site range from 10 to 25 percent. According to recent climate data, the average wind speeds in the City of Santa Rosa range from approximately 6 mph to 10 mph in the vicinity of the project site. Other factors such as humidity, fuel loads, and average precipitation may also affect the potential for fire on the project site. According to the City of Santa Rosa General Plan 2035, Policies NS-G-1 through NS-G-6, incorporation of multiple design features would be required, such as fire resistant materials, sprinkler systems, fuel breaks, and multiple access points to facilitate egress by residents and access by emergency responders, which would minimize the potential for damage or spread of wildfire.

The City of Santa Rosa Weed Abatement Ordinance (Ordinance No. 3681) requires property owners to cut weeds and grasses that are over 4 inches in height once fire season is declared, and maintain that level of compliance throughout the duration of the season. The City's Weed Abatement Inspection Program applies to undeveloped and developed parcels over 0.5 acre in size containing over 0.5 acre of unimproved land. Thus, the City would require the proposed project to comply with the Weed Abatement Inspection Program and would ensure that the project applicant remove weeds and vegetation from the property to reduce wildfire risk.

During project operation and consistent with the SRFD's standard protocol, the SRFD would conduct field inspections at the project site that focus on fire safety as well as other general public safety concerns. If the project site is inspected and found not to be in compliance, a Weed Abatement Violation Notice would be sent to the property owner. The notice would contain a list of violations and a date for the next inspection. If the proposed project is again found not in compliance after having received an Abatement Violation notice, the SRFD would hire a contractor to perform the needed work. The property owner would be responsible for all costs incurred including the initial

¹⁴ City of Santa Rosa. Santa Rosa Fire Department (SRFD). Wildland Urban Interface Fire Area Map. Website: <https://srcity.org/DocumentCenter/View/4775>. Accessed August 14, 2018.

inspection fees (including the investigation, inspection, preparation, service, and/or publication or administrative notices and other related clerical costs performed by the SRFD).

Furthermore, the proposed project itself does not contain any uses or features that would exacerbate wildfire risks or place occupants at a greater risk to wildfire pollutants or uncontrolled wildfire. As such, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Infrastructure That Exacerbates Fire Risk

Impact WILD-3:	The proposed project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
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Impact Analysis

The project site is located in the WUI Fire Area as delineated by the City, where wildlands are located both in and adjacent to the project site.¹⁵ The proposed project would include typical on-site infrastructure including roads, fire hydrants, and utilities. The installation and maintenance of such infrastructure would be completed in a typical manner and would not exhibit unusual characteristics that would exacerbate fire risk or create additional temporary or ongoing impacts to the environment. All roads, buildings, and infrastructure on-site would be located within the proposed development areas and would not introduce significant additional anthropogenic fire risk to undeveloped areas. As discussed previously, the proposed project would be required to incorporate design features, such as fire resistant materials, sprinkler systems, fuel breaks, and multiple access points to facilitate egress by residents and access by emergency responders, which would minimize the potential for fire risk consistent with City of Santa Rosa General Plan 2035, Policies NS-G-1 through NS-G-6. As described previously, the project applicant would be required to comply with the City of Santa Rosa Weed Abatement Program and the SRFD Weed Abatement Inspection Program would ensure that all applicable ordinance measures are implemented.

Construction of on-site infrastructure may temporarily increase fire risk due to grading and construction activities on the project site. However, the implementation of best management practices and mitigation measures requiring the daily use of water trucks across the construction area (MM AIR-2), would also reduce risks associated with wildfire caused by unintentional

¹⁵ City of Santa Rosa. Santa Rosa Fire Department (SRFD). Wildland Urban Interface Fire Area Map. Website: <https://srcity.org/DocumentCenter/View/4775>. Accessed August 14, 2018.

equipment sparks. Furthermore, if a fire were to begin on the project site during construction or grading operations, 9-1-1 would immediately be contacted, and it is likely that an on-site water truck could also be utilized to assist in controlling the fire. Finally, the project site was not identified as a Very High Fire Hazard Zone within the LRA or SRA maps provided by CAL FIRE; however, the project site is located in a Wildland-Urban Interface Fire Area as defined by the local Fire Authority and treated as a Very High Fire Hazard Severity Zone in the SRA. Impacts associated with the temporary increase to fire risks could be less than significant with the incorporation of mitigation measures and best management practices.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Flooding and Landslide Hazards Due To Post-fire Slope Instability/Drainage Changes

Impact WILD-4: **The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.**

Impact Analysis

According to The Landslide Handbook—A Guide to Understanding Landslides, many factors are at play when landslides occur including slope grade, soil conditions and type, moisture, and slope composition.¹⁶ The project site is located in an area that contains slopes ranging from 10 to 25 percent. The project site is bounded on the north by Sonoma Highway, the Oakmont Village retirement community to the east, Melita Road and single-family residential homes to the west, and the Trione-Annadel State Park to the south. The Annadel Ridge lies further to the south of the property. According to the site plans and topographic maps, the height of the slopes located on the project site range from approximately 70 to 100 feet from the toe of the slope up towards the ridge. According to the Santa Rosa General Plan 2035, the Annadel ridgeline is designated as a protected area, and its potential for development is limited.

In areas with steep slopes, vegetation and associated root systems act as a support structure for the soil and slopes while preventing significant erosion. Post-fire slope instability occurs when a fire burns an area with steep slopes and destroys the vegetation. Then the following winter when it rains the stormwater scours the hillsides and removes topsoil. Without topsoil or mature vegetation, slopes become unstable, which results in risks to human life and property. The recent Glass Fire destroyed the three vacant single family residences on site, and also burned vegetation across the site.

¹⁶ Lynn M. Highland. United States Geological Survey. Peter Bobrowsky. Geological Survey of Canada. The Landslide Handbook—A Guide to Understanding Landslides.

The proposed project has been designed, to the extent possible, to conform to on-site topography, thereby minimizing changes to on-site slopes. In addition, on-site creeks have been avoided, and on-site stormwater would be retained in accordance with local, regional, and state regulations to ensure that offsite flow of storm waters would not increase from current levels. Therefore, the likelihood of flooding, landslides, drainage changes, or damage to structures on, downslope, or downstream of the project site would be minimized due to the project design features. As such, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

3.16.6 - Cumulative Impact

The geographic scope of the cumulative wildfire analysis is the project vicinity. Adverse effects of wildfire tend to be localized; therefore, the area near the project site would be most affected by project activities.

The cumulative projects are located in various fire hazard severity zones and in areas with recent proximity to the 2017 Northern California wildfires. However, with the City's update to the SFRD long-range plan assessing the need for an additional fire station, provision of adequate emergency access points at the various cumulative project sites, adherence to the City's Special Tax Financing Code, LHMP – Wildfire Annex – Community Wildfire Protection Plan, and Emergency Operation Plan, and adherence to the most recent State and City fire codes, cumulative impacts related to interference with an emergency response plan or exposure of people or structures to a significant in risk of loss, injury, or death involving wildland fires would be less than significant.

Given the above information, the proposed project, in conjunction with other existing, planned, and probable future projects, would result in a less than significant cumulative significant impact related to hazards, hazardous materials and wildfires.

Level of Cumulative Significance Before Mitigation

Less than significant cumulative impact.

Cumulative Mitigation Measures

No cumulative mitigation is necessary.

Level of Cumulative Significance After Mitigation

Less than significant cumulative impact.

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CHAPTER 4: EFFECTS FOUND NOT TO BE SIGNIFICANT

4.1 - Introduction

This section is based, in part, on the Notice of Preparation (NOP), dated July 12, 2017, and included in Appendix A of this Draft Environmental Impact Report (Draft EIR). The NOP was prepared to identify the potentially significant effects of the project and was circulated for public review between July 12, 2017, and August 11, 2017. In the course of the NOP evaluation, certain impacts were found to be less than significant, because the project's characteristics would not create such impacts. This chapter provides a brief description of effects found not to be significant based on the NOP/Initial Study comments or more detailed analysis conducted as part of the EIR preparation process.

4.2 - Environmental Effects Found not to be Significant

4.2.1 - Agriculture and Forestry Resources

Based on a historical aerial photograph records review obtained for the Phase I Environmental Site Assessment (Phase I ESA), the northern portion of the project site was occupied by orchard land uses from at least 1942 until at least 1968 and has not been used recently for agricultural purposes. The project site is currently designated for Very Low Density Residential (VLD), Low Density Residential (LD), and Medium Density Residential (MD) uses in Santa Rosa General Plan 2035. The project site is an infill site within the City's municipal boundaries and Urban Growth Boundary (UGB) and does not consist of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, nor is it subject to a Williamson Act contract. The nearest land under a Williamson Act contract is located more than a mile to the north, outside the City boundaries and partially outside the UGB.¹ Accordingly, the project site's conversion to non-agricultural uses would not have a significant impact on agriculture. The project site does not contain forest land as described in Public Resources Code Section 12220(g), timberland as defined by Public Resources Code Section 4526, or property zoned for Timberland Production as defined by Government Code Section 51104(g) on the site or in its vicinity. As such, the project would not conflict with existing zoning for forestland or timberland. Therefore, no impact associated with agriculture or forestry resources would occur.

4.2.2 - Biological Resources

Habitat, Natural Community, or Other Conservation Plan

The project site is not located within the area of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP.² The project site is located approximately 2.25 miles outside of the Santa Rosa Plain Conservation Strategy Plan Area. Therefore, the project would result in no impact related to conflicts with an adopted HCP, NCCP, or other approved local, regional, or State HCP. No mitigation is required.

¹ Sonoma County. 2019. Williamson Act Map.

² United States Fish and Wildlife Service (USFWS). Habitat Conservation Plans. Website: https://www.fws.gov/sacramento/es/Habitat-Conservation-Plans/es_hcp.htm. Accessed November 3, 2017.

4.2.3 - Geology and Soils

Soils Adequate to Support Alternative Wastewater Disposal Systems

The project would connect to the City of Santa Rosa's wastewater system through existing connections along Susan Road and Brand Road as described in Chapter 2, Project Description. The project would not install septic systems or support alternative wastewater disposal systems. Therefore, no impacts associated with soils being inadequate to support alternative wastewater disposal systems would occur.

4.2.4 - Hazards, Hazardous Materials

Exposure of Schools to Hazardous Materials

There are no schools located within 0.25-mile of the project site. The closest school, Austin Creek Elementary School, is located approximately 1.06 miles to the northwest of the project site. Although small quantities of typical hazardous substances would be used on-site during construction and operation, the project would not handle or store these substances within 0.25-mile of a school. In addition, General Plan Policy NS-F-4 would ensure that hazardous substances would be transported along appropriate routes; also, there is a detailed regulatory framework with which the project would be required to comply, which would further ensure there would not be any significant impacts in this regard. Therefore, no impacts associated with hazardous materials use within one-quarter mile of an existing or proposed school would occur.

Public Airports

The nearest public airport is located approximately 10 miles to the northwest, and, as a result, the project is not located in a public airport influence zone. Therefore, no impacts associated with public airport influence zones would occur.

4.2.5 - Hydrology and Water Quality

Flood Hazard, Tsunami, or Seiche Zones

The project site is not located within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map (FIRM). The project is not located in a dam failure inundation hazard area as shown in the Sonoma County General Plan 2020 Public Safety Element. The project site is not located within a tsunami hazard zone, mudflow hazard zone, or near an enclosed body of water capable of producing seiches. Therefore, no impacts associated with flood hazards, tsunamis, or seiches would occur.

4.2.6 - Mineral Resources

According to site visits and a review of surrounding aerial photography, there are no mineral recovery sites on or in the vicinity of the project site. The nearest mine is the Mark West Quarry, located approximately 7.43 miles to the north of the site. Therefore, implementation of the project would not result in the loss of a locally important mineral resource recovery site. Further, while a Mineral Land Classification report prepared by the California Geological Survey indicates that the project site is located in an area containing known mineral occurrences of undetermined mineral

significance, residential areas and areas committed to residential development are not considered suitable as Aggregate Resource Areas under the California Surface Mining and Reclamation Act (SMARA). As such, construction and operation of the project would not result in the loss of availability of a known mineral resource of value to the region. Therefore, no impacts associated with mineral resources would occur.

4.2.7 - Noise

Public or Private Airport Aviation Noise

The nearest public airport to the project site is the Charles M. Schulz–Sonoma County Airport, located approximately 10 miles northwest of the project site. Because of the distance from and orientation of the airport runways, the project site is located well outside of the 65 A-weighted decibel (dBA) Community Noise Equivalent Level (CNEL) airport noise contours. The nearest private airstrip to the project is the Graywood Ranch Airport, located approximately 3.5 miles southeast of the project site. Because of the distance from and orientation of the airport runway, the project site may experience occasional aircraft noise, but such noise would not be in excess of normally acceptable standards for residential land use development. Therefore, implementation of the project would not expose persons residing or working in the project site to noise levels from airport activity that would be in excess of normally acceptable standards for residential land use development. There would be no impacts associated with public airport aviation noise.

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CHAPTER 5: ALTERNATIVES TO THE PROPOSED PROJECT

5.1 - Introduction

In accordance with California Environmental Quality Act (CEQA) Guidelines Section 15126.6, this Draft 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 range of potentially feasible alternatives to the proposed project 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 alternative 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.

5.1.1 - Significant Unavoidable Impacts

The project was analyzed for potentially significant impacts on each of the environmental issues discussed in Sections 3.1 through 3.16. The results of the analysis indicate that the project would result in significant unavoidable impacts with respect to a scenic vista and visual character, related to views of the project site as seen from Los Alamos Road, which is identified as a scenic road in General Plan 2035 and Channel Drive, which is the entrance road to Trione-Annadel State Park. The project would change the project site, a prominent part of the scenic vista, to a more urban, residential development. It is noted that the extent, scale, and massing of all on-site buildings would be designed in a way that allows the natural hillside and creek side backdrops to be expressed throughout the development. The site plan would respect the natural features and slopes of the site and integrate trees, creeks, and riparian areas into the design. The project's placement of homes along the natural contours of the site would ensure the natural curvature of the hill is maintained. Proposed landscaping, trees, and shrubs would enhance screening throughout the project site and minimize the visual impacts of the buildings and homes. Over 58 percent of the site would be left as natural open space and landscaped area. Over 75 percent of the trees on-site would also remain in place. Combined these design features would help to reduce the visual changes to the project site as viewed from Los Alamos Road and from Channel Road, but significant visual changes would still occur. Thus, even though the project attempts, through project design, to fully mitigate impacts as required by CEQA, due to site configuration constraints as well as the nature and scope of the project being proposed, no feasible mitigation is available for the proposed project that would reduce this impact to less than significant.

5.1.2 - Alternatives to the Proposed Project

Pursuant to CEQA Guidelines Section 15126.6, this Draft EIR presents a reasonable range of potentially feasible alternatives to the proposed project for analysis and evaluation of their comparative merits. These alternatives are considered to cover the range of development alternatives that would meet most of the basic objectives of the project while lessening one or more of its significant impacts. CEQA Guidelines Section 15126.6(a) states that an EIR need not evaluate every conceivable alternative to a project. Information has been provided for each alternative that would allow meaningful comparison with the project. All of the alternatives analyzed in this chapter would feasibly avoid or reduce at least one of the significant impacts of the project.

CEQA requires that an EIR analyze a “no project” alternative (CEQA Guidelines § 15126.6(e)). Where, as here, this alternative means a proposed project would not proceed, the discussion “[should compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved” (CEQA Guidelines § 15126.6(e)(3)(B)). A “no project” alternative shall describe existing conditions at the time the Notice of Preparation (NOP) is prepared, as well as what could reasonably be expected in the foreseeable future if the project is not approved, based on current plans and consistent with available infrastructure and community services. In this case, the “no project” alternative considers foreseeable development on-site in accordance with the existing General Plan land use designations.

The alternatives to the project analyzed in this section are as follows:

- **No Project Alternative:** Under the No Project Alternative the site would remain in its current mostly undeveloped condition.
- **Existing General Plan Designation Alternative:** Under the Existing General Plan Designation Alternative, a Continuing Care Retirement Community (CCRC) would not be constructed and operated on the site. Instead, the project site would be developed in accordance with existing Santa Rosa General Plan 2035 land use designations. These designations include approximately 53.26 acres of Very Low Density Residential (0.2-2.0 units per acre), approximately 6.65 acres of Low Density Residential (2-8 units per acre), and approximately 9.07 acres Medium Density Residential (8-18 units per acre), as shown in Chapter 2, Project Description, Exhibit 2-6, General Plan Land Use Designations. This would allow for the development of up to 161 single-family residences and up to 164 attached units, a total of 325 units. Pursuant to Zoning Code Chapter 20-31, depending on the level of affordability the site would have additional development potential for 114 Density Bonus units, bringing the total to 439 units.
- **Reduced Density Alternative:** Under the Reduced Density Alternative, the proposed development would be reduced to that allowed by the current Planned Development Policy Statement, a maximum of 460 units, by removing Building N and P and all garages south of Oakmont Creek, and replacing Buildings G, H, J, K, M, and L with 36 cottages; removing Building C, reducing Building B to 40 units, and removing four of the 12 units located adjacent to Sonoma Highway, which are intended for employee housing. The 460 units would be comprised of approximately 110 senior cottages, 280 senior apartments, 62 residential care

units, and 8 employee housing units. Overall, 216 fewer units would be constructed. The recreational amenities would be increased adjacent to the Recreation Center and south of Oakmont Creek adjacent to Channel Drive, where Building N and P and garages were removed. The cottages would still be single-story 2-bedroom homes of up to approximately 2,500 square feet and be designed with the same architectural features as the proposed project. Project access would also be the same as the proposed project. This alternative would reduce overall building massing on-site as well as reduce the project's traffic trips.

- **Reconfigured Site Plan Alternative:** Under the Reconfigured Site Plan Alternative, the proposed site plan would be reconfigured to provide a wider buffer around certain biologically sensitive areas of the project site. The total number of community care units that would be developed under this alternative would be the same as the proposed project (676 units); however, no development would occur south of Annadel and Oakmont Creeks or on the hillside closest to the confluence of those creeks. Specifically, Buildings M, N, and P proposed by the project in that area would not be built. Instead, the 67 units from those buildings would be transferred to Buildings D, E, J, K, and the western arm of Building B, located toward the interior of the site. The height of those buildings would be increased from 43 feet to 50 feet in order to accommodate the additional units. All other residential development—the cottages, the 62-bed care center, the employee housing—would be constructed as with the proposed project. Access to and from the site would be the same as under the proposed project. This alternative would result in a more compact development footprint and a greater amount of natural open space on the site.

5.2 - Project Objectives

As stated in Chapter 2, Project Description, the objectives of the proposed project are to:

1. Positively contribute to the local economy through new capital investment, the construction of new dwelling units, and the creation of new recreational pursuits.
2. Develop a vacant infill site within the City limits in an economically viable manner while taking into consideration the security, safety, and privacy needs of the senior community to be served by the project along with various site constraints and the desire to minimize impact to the natural terrain to the extent feasible.
3. Create a range of senior housing opportunities to meet market demand for this type of housing product in Sonoma County.
4. Develop a complete community with a flexible range of residential options, recreational amenities, and daily services to cater to the needs of residents and to reduce off-site vehicle trips.
5. Provide market rate units intended for on-site employee housing in the interests of reducing commute times and contributing to the City's housing stock.
6. Provide efficient and safe access to and from the project site and effectively manage traffic in the vicinity of the project site.

7. Cluster residential development on the project site so as to preserve significant amounts of open space areas adjacent to the riparian corridors.
8. Preserve and protect Oakmont Creek by establishing a greenway along the creek corridor. This greenway would be provided for use by residents and staff. It would not be open to the public.
9. Promote land use compatibility with neighboring residential uses through the use of clustering, preservation of significant amounts of trees, thoughtful site design that takes into consideration the natural topography, landscaped setbacks, and the preservation of substantial amounts of natural open space.

5.3 - Alternative 1—No Project Alternative

The CEQA Guidelines stipulate that an EIR specifically include a “No Project” alternative. The purpose in including a No Project Alternative is to allow decision-makers to compare the impacts of approving the project with the impacts of not approving the project. The Guidelines specifically advise that the No Project Alternative is “what would be reasonably expected to occur in the foreseeable future if the project is not approved,” . . . The Guidelines emphasize that an EIR should take a practical approach, and not “. . . create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.” (CEQA Guidelines § 15126.6(e)(3)(B)).

5.3.1 - Impact Analysis

The No Project Alternative would avoid the environmental impacts of the project, and no additional analysis is required. The No Project Alternative scenario would avoid the project’s potentially significant and unavoidable aesthetic impacts. Since the project site would not be developed under this alternative, the project would also avoid construction noise and air quality impacts to neighboring residential uses.

5.3.2 - Conclusion

The No Project Alternative would avoid all the project’s potentially significant and unavoidable impacts related to Aesthetics. The No Project Alternative would also avoid the other less than significant (with mitigation incorporated) noise and air quality impacts of the proposed project.

5.4 - Alternative 2 – Existing General Plan Designation Alternative

Under the Existing General Plan Designation Alternative, the proposed project would not be developed. Instead, development on the project site would be consistent with the existing City General Plan designations on the project site.

The site is currently designated Very Low Density, Low Density, and Medium Density Residential under the City General Plan, as illustrated in Chapter 2, Project Description, Exhibit 2-6, General Plan Land Use Designations. Under the No Project Alternative, it is assumed that residential development would consist of a mix of market-rate and affordable housing for economic and density bonus reasons. Pursuant to Zoning Code Chapter 20-31, a project can be eligible for up to a 35 percent density

increase by designating a portion of the proposed housing to moderate, low or very low-income occupants. With the inclusion of affordable housing, a 35 percent density bonus is assumed, in accordance with Santa Rosa City Code Chapter 20-31. Table 5-1 shows the total acreage of the General Plan 2035 designations on the project site, the development density under each designation, and the total number of housing units that would be constructed with the density bonus.

Table 5-1: Site Development under Existing General Plan Designation Alternative

General Plan Designation	Acres	Development Density	Residential Units and Type	Potential Number of Density Bonus Units
Very Low Density Residential	53.26	2 units/acre	106 single-family homes	38 single-family units
Low Density Residential	6.65	8 units/acre	53 single-family homes	19 single-family units
Medium Density Residential	9.07	18 units/acre	163 apartments	57 single-family units
Total	68.98	—	322 units	113 units

Because development would occur in accordance with existing General Plan 2035 designations, this alternative assumes no construction of several of the main features of the project being cottages, continuing care center, and employee housing. Though apartment construction would occur, the units would not be designated specifically for seniors. None of the recreational and other amenities proposed by the project would be provided under this alternative; however, there would likely be a parkland dedication, pursuant to City Code section 19-70, providing access from Sonoma Highway to Channel Drive, Trionne-Annadel State Park and Spring Lake, and public access through the site. Development would occur in accordance with all applicable City standards and ordinances.

While this alternative would result in fewer residential units, there would be a greater amount of lower-density residential development, which typically requires more land area than multi-family development. Therefore, the area that would be disturbed by construction and operational activities would likely be similar to the proposed project.

5.4.1 - Impact Analysis

Aesthetics

Under this alternative, there would be 354 fewer units. All on-site development would be required to abide by existing zoning and development standards, which would not allow development along the ridge, and would place 216 units near Sonoma Highway, where the land use designations of Low Density Residential and Medium Density Residential allow higher densities (as shown in Table 5-1), and scatter the remaining 106 units throughout the remaining 53.26 acres designated for Very Low Density Residential development on the General Plan Land Use Diagram. Fewer apartment units would be built and there would be more single-family residences. Compared to the proposed project, this alternative would result in less concentration of buildings given the density limits allowed under the General Plan 2035, and an overall reduced number of residential units across the

approximately 68-acre site. This would likely result in a project that is more visually consistent with the surrounding development than the proposed project and would, therefore, lessen the aesthetic impacts.

With respect to light and glare, a reduced amount of exterior lighting and glare likely would occur under this alternative. However, similar to the proposed project, this alternative would be required to abide by City Code Section 20-30.080 that limits the amount of allowable light trespass onto adjoining properties and avoids impacts to nighttime lighting; thus, under both this alternative and the proposed project, impacts would be less than significant in terms of lighting.

In conclusion, aesthetic impacts under this alternative would be somewhat reduced given the reduced number of overall units and density, although both the proposed project and this alternative would have less than significant impacts associated with scenic resources and light and glare. However, the significant and unavoidable impacts identified for the proposed project, which are related to the scenic vistas and the degradation of the existing visual quality as a result of a significant change from the non-urban nature of current conditions, may also remain under this alternative.

Air Quality

This alternative would develop 288 fewer residential units than under the proposed project, and would therefore not conflict with or obstruct implementation of the applicable air quality plan as this alternative, similar to the proposed project, would be shown to be consistent with population projections reflected in regional and local planning documents. This alternative would also be required to implement all applicable air quality pollution control measures; and, similar to the proposed project, would not be expected to exceed any applicable air quality emissions standards.

As this alternative would develop fewer residential units than under the project, it can reasonably be expected that the overall construction schedule would be reduced, thereby reducing overall construction-related fugitive dust and air pollutant—including toxic air contaminant—emissions. However, similar to the proposed project, all construction-related fugitive dust emissions would be addressed through implementation of applicable control measures consistent with Bay Area Air Quality Management District (BAAQMD) recommended guidelines. Therefore, under both the proposed project and this alternative, Best Management Practices (BMPs) to control construction fugitive dust would be implemented and both would have less than significant impacts in this regard. Furthermore, implementation of Mitigation Measure (MM) AIR-3 would similarly ensure that potential health risk impacts related to construction diesel particulate matter (DPM) emissions would be reduced to less than significant.

Despite the reduction in residential units, this alternative would result in an increase in residential daily trips: 3,131 daily trips as opposed to the proposed project's 1,797 daily trips (see Transportation and Traffic below). Operational emissions under the project were below the BAAQMD significance thresholds for all pollutants of concern. This alternative would generate more operational emissions than the proposed project. Thus, this alternative would result in higher operational-related air pollutants or precursors than the proposed project.

Because this alternative would generate more daily vehicle trips than the proposed project, more operational emissions of criteria pollutants and toxic air contaminants would result. This, in turn, would increase the severity of air quality impacts. This alternative would have a greater impact on air quality than the proposed project.

As the type of land use development would be similar to the proposed project, it would be expected that this alternative's potential odor impacts would be also less than significant.

Biological Resources

While this alternative would result in fewer residential units, there would be a greater amount of lower-density residential development, which typically requires more land area than multi-family development. Therefore, the area that would be disturbed by construction and operational activities would likely be similar to (and perhaps more than) the proposed project. Because of this, impacts on special-status wildlife and plant species would be similar to the proposed project, and could therefore be mitigated to a less than significant level. This would also be the case with respect to potential impacts on sensitive habitat communities or riparian habitat and wildlife corridors; that is, with imposition of identified mitigation, compliance with resource agency permitting requirements, and compliance with applicable requirements under the City's Creekside Development Ordinance (e.g., adherence to creek setbacks, etc.), impacts would be reduced to a level that is less than significant. Tree removal would still occur, and it is anticipated the number of trees to be removed would be similar (and perhaps greater under this alternative given that more overall ground disturbance and less clustering would occur); however, compliance with applicable provisions of the City's Tree and Creekside Development Ordinances would ensure that impacts in this regard remain less than significant. Similar to the proposed project, this alternative would result in biological resources impacts that would be less than significant with incorporation of identified mitigation.

Cultural and Tribal Cultural Resources

While this alternative would result in fewer residential units, there would be a greater amount of lower-density residential development, which typically requires more land area than multi-family development. Therefore, the area that would be disturbed by construction activities would likely be similar to (and perhaps greater than) the proposed project. Because of this, impacts on cultural resources would be similar as well. This alternative would result in potentially similar impacts on cultural resources that may exist on the site, which could be disrupted during construction. Mitigation regarding construction monitoring for historical, archaeological, and tribal cultural resources, and burial sites still would be required. Similar to the proposed project, this alternative would result in cultural resources impacts that would be less than significant with incorporation of identified mitigation.

Geology and Soils

Based on the estimated population of 886, fewer residents would be exposed to hazards associated with ground shaking, liquefaction, landslides, unstable soils, and expansive soils than under the project, which estimates approximately 975 residents. However, as these same risks would remain under this alternative as well as the project, mitigation similar to the proposed project would still be

required. This alternative would have a similar (and perhaps greater) area of ground disturbance; therefore, impacts related to soil erosion would be similar and would require similar mitigation. Similar to the proposed project, this alternative would result in geology and soils impacts that would be less than significant with incorporation of identified mitigation.

Greenhouse Gas Emissions and Energy

As described in Air Quality, this alternative would develop 288 fewer residential units than under the proposed project, and thus construction phasing may be reduced to a certain degree (as would construction-related greenhouse gas [GHG] emissions). Like the proposed project, this alternative would not result in the wasteful, inefficient, or unnecessary consumption of energy; and would not conflict with a Plan for Renewable Energy or Energy Efficiency.

From an operational standpoint, this alternative would develop 192 single-family non-age-restricted residences and 196 non-age-restricted apartments, which would generate more vehicle trips and, consequently, more emissions, including GHGs, than the proposed project. Despite the reduction in residential units, this alternative would result in an increase in residential daily trips: 3,131 daily trips as opposed to the proposed project's 1,797 daily trips. However, by developing single-family residences, this alternative would have a greater potential for offsetting GHG emissions through the use of solar panels than the proposed project. Overall, GHG emission impacts under this alternative would be similar to those under the proposed project, which are less than significant after incorporation of mitigation. Similar to the proposed project, this alternative would also be required to demonstrate compliance with regulations aimed at reducing GHG emissions, such as the City's Climate Action Plan.

Hazards and Hazardous Materials

As with the proposed project, this alternative, which would involve residential uses, would not create a significant hazard to the public or environment related to the routine transport, use, or disposal of hazardous materials, nor would it emit hazardous emissions, be located on a site identified on a Cortese List, impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, or pose significant risks through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. Similar to the proposed project, this alternative would be required to adhere to all applicable laws and regulations governing hazardous materials; adhere to the City's Local Hazard Mitigation Plan (LHMP) and Emergency Operation Plan; and also would be required to implement feasible mitigation requiring the abatement of on-site asbestos or lead containing materials with the demolition and removal of existing single-family residences from the site; testing of soils for potential contamination from historic land uses and from the 55-gallon drums on the site and implement recommendations accordingly. Overall, similar to the proposed project, this alternative would result in hazards and hazardous materials impacts that would be less than significant with incorporation of identified mitigation.

Hydrology and Water Quality

Construction activities under this alternative would require mitigation similar to the proposed project in order to control sediment and erosion to ensure that no standards for water quality or waste discharge requirements are exceeded, as well as this alternative would be required to comply

with the applicable provisions of Standard Urban Storm Water Mitigation Plan, the Stormwater Low Impact Development Technical Design Manual (LID Manual), and with the provisions of the construction stormwater permit. Because a similar area (and perhaps a greater amount) of ground disturbance would occur under this alternative, the amount of sediments that could be conveyed to nearby creeks as a result of ground disturbance would be similar to that of the proposed project. Also similar to the proposed project, this alternative would be required to adhere to applicable creek setbacks and be required to accommodate on-site flows in a manner that would not result in flooding or exceed the capacity of existing storm water facilities. In addition, both the project and this alternative would introduce a similar amount of impervious surfaces, but neither scenario would substantially deplete groundwater supplies, interfere substantially with groundwater recharge, or substantially alter the existing drainage pattern of the site or area.

Therefore, similar to the proposed project, this alternative would result in hydrology and water quality impacts that would be less than significant.

Land Use and Planning

Similar to the proposed project, this alternative would not physically divide an established community.

Also similar to the proposed project, this alternative would not conflict with land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. This alternative would require many of the same entitlements as the proposed project. The uses developed under this alternative would have physical characteristics and end uses similar to the project, although this alternative would not provide housing to serve the special needs for a certain community segment (i.e., seniors with a range of care requirements). This alternative would construct residential development up to the currently allowed densities specified in the General Plan (see Table 5-1, above), and thus, considered consistent with existing land use designations and zoning code. Residential development in Very Low Density Residential (VLD) and Low Density Residential (LD) zoning would result in a development pattern that is less dense than the proposed project. Residential development in Medium Density Residential (MD) zoning would result in a development pattern that is higher than the proposed project. The single-family development would be consistent with development in the surrounding urban areas, which are predominantly single-family residential, although it would result in an overall less clustered and a less efficient use of the site. Assuming a 35 percent density bonus, this alternative would provide approximately 5 percent of units as very low-income housing (20 units) or 10 percent of units as low income housing (39 units) and therefore would contribute to the City's affordable housing goals. Like the proposed project, this alternative would be required to abide by the Hillside Development Standards. This alternative would provide a publicly accessible subdivision that would provide enhanced access and connectivity for the surrounding parks. As such, similar to the proposed project, this alternative would result in less than significant impacts to land use.

Noise

As noted previously, while fewer residential units could be constructed under this alternative and thus perhaps reducing the overall construction time frame, the overall construction footprint could

be similar to that of the proposed project. Therefore, this alternative's estimated reasonable worst-case construction noise impacts (as well as those related to groundborne vibration and groundborne noise) would be similar to those under the proposed project. Similar to the proposed project, mitigation would be required to ensure that construction noise impacts are less than significant.

This alternative would generate more daily vehicle trips than the project (see Transportation and Traffic below), which could result in slight increases in traffic noise impacts, compared to the proposed project, but would still not result in a substantial increase as they would not double existing traffic volumes. However, based on information in Section 3.10, Noise, Sonoma Highway would be the only road in the vicinity where significant traffic noise impacts would occur for proposed future development. Similar to the proposed project, residences closest to Sonoma Highway would be exposed to noise at levels that could exceed interior noise level standards when windows are open, so mitigation would still be needed to reduce this impact.

This alternative would include smaller mechanical ventilation systems than the proposed project and would not include any large parking areas. Therefore, this alternative would be expected to result in similar less-than-significant stationary operational source noise impacts.

Similar to the proposed project, this alternative would not introduce any permanent sources of groundborne vibration and, therefore, would be expected to result in less than significant groundborne vibration and groundborne noise. Because this alternative would be on the same site as the proposed project, it would also not result in any noise impacts related to airport activity.

Population and Housing

Based on an average of 2.62 persons per household, the No Project Alternative could lead to an on-site population of 1,016, while the estimated population under the proposed project would be approximately 975. The California Department of Finance estimates the City of Santa Rosa has a population of 177,017, an average household size of 2.65, and 68,927 dwelling units as of January 1, 2019.¹ Population is expected to grow to 221,800 by 2040. Both the proposed project and this alternative would represent an insignificant portion of the expected growth. Furthermore, both the proposed project and this alternative would be consistent with existing land use designations and therefore would be considered a part of the expected growth. Unlike the proposed project, this alternative would have no on-site employees contributing to additional permanent employment in Santa Rosa. Furthermore, this alternative would create more non-age restricted housing units but would have fewer units overall and would not provide housing targeted to seniors (accommodating a range of care needs). While this alternative would not provide housing specific for seniors, it would provide a range of housing types, consistent with City land use regulations and policies, to serve the needs of the City's growing population including affordable units. Therefore, similar to the proposed project, this alternative would not conflict with regional population growth projections and would not induce substantial unplanned population growth in an area, either directly or indirectly. Similar to the proposed project, this alternative would not displace any existing housing units (since the three homes were destroyed in the Glass Fire), and therefore would not necessitate the construction

¹ California Department of Finance. 2019. E-1 Population Estimates for Cities, Counties, and the State—January 1, 2018 and 2019. Website: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>.

of replacement housing elsewhere. Accordingly, similar to the proposed project, this alternative would have less than significant population and housing impacts.

Public Services

Under this alternative, end uses would be similar to the proposed project, albeit with a slightly greater on-site population (41 persons) and corresponding increase in need for public services compared to the proposed project. Because of the increased on-site population compared to the proposed project, this alternative would result in increased demand for fire protection/emergency medical response, police protection, and library services, although given that the alternative would not be age-restricted with seniors requiring a range of care, the demand for emergency medical response may be slightly reduced under this alternative. Mitigation regarding provision of automatic external defibrillators (AEDs) and Lift Team Training would not be required because a continuing care retirement facility would not be developed as part of this alternative. Both the project and this alternative would be required to annex into Special Tax District 2006-1 to assist in funding public services. Neither the project nor this alternative would result in the need for new or significantly altered police or fire service facilities.

Impacts on school facilities would be substantially greater under this alternative, as single-family residences are more likely to have households with student-age children. Based on the student generation rate of 0.242 student per household, as noted in Section 3.12, Public Services, the number of elementary school students in the Rincon Valley Union School District would increase by approximately 94 under this alternative, rather than just 3 under the project. Whether the additional students would require new or expanded facilities to accommodate them is unknown. Thus, this alternative would have greater public services impacts than under the project. However, the City would require development-driven impact fees to cover the costs of increasing school capacity due to an increased enrollment caused by new residential and commercial development.² The fees would be collected by the applicable individual school district and paid at the time of submitting a building permit application. Therefore, impacts under this alternative would be less than significant and would eliminate the need mitigation.

Recreation

Under the proposed project, private recreational amenities would be provided on-site for the use of Elnoka residents and their guests, whereas this alternative may not provide such amenities. However, pursuant to City Code Chapter 19-70, park fees or land dedication would be required. In addition, more single-family residences would likely mean more families, which could increase demand for public park and recreational services. Therefore, demand for public park and recreational services likely would increase under this alternative. Similar to the proposed project, development under this alternative would be required to pay applicable park development fees and would result in recreational impacts that are less than significant. However, this alternative would

² City of Santa Rosa. Planning and Economic Development Department Fee Schedule, at page 15. Website: <https://www.srcity.org/DocumentCenter/View/16129/Planning—Economic-Development-Department-Fee-Schedule?bidId=>. Accessed August 17, 2018.

have greater parks and recreation impacts than the proposed project, although both this alternative would result in less than significant impacts overall.

Transportation and Traffic

This alternative would result in the development of 338 fewer residential units than the proposed project. However, there would be more single-family residential units, which generate 9.52 daily peak-hour vehicle trips as opposed to 2.58 daily peak-hour trips estimated for the project's residential units. Additionally, the apartments that would be constructed under this alternative are estimated to generate 6.65 daily peak-hour vehicle trips. Based on these trip generation rates, this alternative would result in an increase in residential daily trips: 3,131 daily trips as opposed to the proposed project's 1,797 daily trips.

Utilities and Service Systems

Under this alternative, end uses would be similar to the proposed project. Based on rates provided in Section 3.15, Utilities and Service Systems, this alternative is estimated to generate a residential water demand of 99.0 acre-feet per year and approximately 44,300 gallons of wastewater per day, as compared to the proposed project which would generate a demand of approximately 158 acre-feet per year of residential water and approximately 51,000 gallons of wastewater per day. Thus, this alternative would place less demand on the City's water and sewer systems than the proposed project. However, similar to the proposed project, this alternative's residential uses would be served by, and subject to, applicable City standards and regulations for water, wastewater, and storm drainage, which would ensure that impacts would remain less than significant. Thus, similar to the proposed project, this alternative would result in utility and service system impacts that are less than significant.

Wildfire

Similar to the proposed project, this alternative would be required to adhere to all applicable laws and regulations governing wildfire risk; adhere to the City's LHMP and Emergency Operation Plan; and implementation of MM WILD-1, which would require the project to prepare an updated evacuation plan and map that shall be submitted for review by Traffic Engineering and the Fire Department and distributed to residents at project operation. Similar to the proposed project, under this alternative incorporation of General Plan Policies NS-G-1 through NS-G-6, along with multiple design features such as fire-resistant materials, sprinkler systems, fuel breaks, and multiple access points to facilitate egress by residents and access by emergency responders, and Santa Rosa Weed Abatement Ordinance (Ordinance No. 3681) would minimize the potential for damage or spread of wildfire. Similar to the proposed project, under this alternative development would include typical on-site infrastructure including roads, fire hydrants, and utilities where the installation and maintenance of such infrastructure would be completed in a typical manner and would not exhibit unusual characteristics that would exacerbate fire risk or create additional temporary or ongoing impacts to the environment. Similarly, the project site would still be located in Wildland-Urban Interface Fire Area and impacts associated with temporary increases to fire risks would be less than significant with incorporation of BMPs and mitigation measures during construction. Overall, similar

to the proposed project, this alternative would result in wildfire impacts that would be less than significant with incorporation of identified mitigation.

5.4.2 - Conclusion

The No Project, General Plan Designation Alternative would somewhat reduce the extent of certain significant impacts to a certain degree (including aesthetics and stationary operational noise) but would not eliminate any significant and unavoidable impacts or reduce any impacts from significant to less than significant (as compared to the proposed project). Moreover, this alternative could exacerbate many of the identified impacts and create at least one additional significant and unavoidable impact. Impacts that would be exacerbated are related to air quality, GHG emissions, schools, and possibly noise.

This alternative would advance some of the proposed project objectives: increasing the available housing supply, accommodate the City's growing population and thereby contributing to the local economy, developing a vacant infill site, providing affordable housing (assuming a density bonus) and promoting land use compatibility to a certain degree. However, the objectives of serving the special housing needs of a particular community segment (i.e., seniors with a range of care needs); creating new recreational pursuits; developing a "complete community" with a flexible range of residential options, recreational amenities, and daily services to cater to the needs of residents; preserving significant amounts of open space areas (through cluster residential development) would not be met. In summary, while this alternative would reduce certain significant (but mitigatable) impacts to a certain degree, it would not realize most of the project objectives; would not eliminate any significant and unavoidable impacts; and would result in at least one additional significant and unavoidable impact as compared to the proposed project.

5.5 - Alternative 3—Reduced Density Alternative

Under the Reduced Density Alternative, the proposed development would be reduced to the current Planned Development zoning maximum of 460 units. The 460 units would be comprised of approximately 110 community care cottages, 62 residential care units 280 community care apartments, and 8 employee housing units. Overall, 216 fewer units would be constructed, representing an approximately 30 percent reduction as compared to the proposed project. Table 5-2 summarizes the proposed land uses and units. The overall disturbance area would likely be less than that of the proposed project. The Reduced Density Alternative would be subject to edits to the existing policy Statement. Similar to the proposed project, this alternative would require a Zoning Map Amendment to implement a Senior Housing (-SH) combining district.

Table 5-2: Site Development under Reduced Density Alternative

General Plan Designation	Acres	Residential Units and Type ¹
Community Care Facilities permitted in all General Plan Residential Land Use Categories	—	110 community care cottages
	—	62 community care units
	—	280 community care apartments
	—	8 employee housing units
Total	68.98	460 units
Notes: ¹ Community Care Facilities regulated by intensity of use		

With the reduced number of residential units, this alternative would provide more recreational amenities than those proposed by the proposed project. A garden and recreation area would be added south of Oakmont Creek and additional recreational courts would be added adjacent to the Recreation Center. Building heights would remain the same. Access to the site would be the same as under the proposed project, with access points from Sonoma Highway and Melita Road. Infrastructure services would remain generally the same as under the project, but with a reduced amount of installation and fewer connections because of the reduced number of residential units.

5.5.1 - Impact Analysis

Aesthetics

The Reduced Density Alternative proposes fewer overall units, but a similar overall footprint as the proposed project. Similar to the proposed project, under this alternative, the City would require the project applicant to submit a modified Policy Statement, which would contain a conceptual site plan that includes detailed architectural styles or themes, building design, and landscaping plans among other things. The City would review the Policy Statement for consistency with applicable goals and policies of the Santa Rosa General Plan 2035 and condition the alternative project to protect visual resources accordingly to the extent feasible. The residential structures would employ similar architecture and design elements, thereby resulting in a similar change in existing visual character from the project. Given the non-urban nature of the existing condition, the elevated views from certain public roads and other public viewing points of the project site, and the fact that the project site is a prominent part of the scenic vista from these sites, this alternative would result in a more urban, residential development than existing conditions. As such, and similar to the proposed project, this alternative would not avoid the significant unavoidable impact to scenic vistas and visual character.

A reduced amount of exterior lighting and glare would occur because of the reduced development. However, similar to the proposed project, this alternative would be required to abide by City Code Chapter 20-30.080 that limits the amount of allowable light trespass onto adjoining properties and avoids significant impacts to nighttime lighting, which would ensure that impacts for light and glare remain less than significant.

Under this alternative, reduction of the 4 attached residential units, intended for employee housing, would slightly reduce building massing as seen from Sonoma Highway, (see Section 3.1, Aesthetics, Exhibit 3.1-5, Photograph B). Construction on and adjacent to the on-site ridgeline would still occur consistent with Zoning Code Chapter 20-32, Hillside Development. Unlike the project, cottages (in place of Buildings G, H, J, K, M, and L) would be constructed on the southern slope of the ridgeline. Therefore, views of the project from Channel Drive's higher elevations points in Trione-Annadel State Park would be somewhat less impacted by this alternative because it would develop cottages in place of Buildings G, H, J, K, M, and L, thereby reducing building massing and appearing more consistent with surrounding land uses to a certain degree. Similar to the proposed project, Buildings C, D, and E would still be constructed on the northern side of the ridgeline and cottages would be constructed along the ridgetop. Views of this alternative from Los Alamos Road would be similar to those of the proposed project because the same buildings (Buildings D, E, F, and B, as well as ridgetop cottages) would still be visible and significantly more dense than surrounding areas (Section 3.1, Aesthetics, Exhibit 3.1-9). As such, significant unavoidable impacts to scenic vistas and visual character as seen from Los Alamos Road would still occur and be similar to those resulting from the proposed project.

In conclusion, aesthetic impacts under this alternative would be somewhat reduced given the reduced number of overall units and density, although both the proposed project and this alternative would have less than significant impacts related to scenic resources and light and glare.

Air Quality

This alternative would develop 216 fewer residential units than under the project, and would therefore not conflict with or obstruct implementation of the applicable air quality plan as this alternative would be similarly shown to be consistent with population projections reflected in regional and local planning documents. This alternative would also be required to implement all applicable air quality pollution control measures; and, similar to the proposed project, would not be expected to exceed any applicable air quality emissions standards.

This alternative would develop 216 fewer residential units than under the project and therefore would result in fewer air pollutant construction emissions. Therefore, the overall construction schedule would be reduced, thereby reducing overall fugitive dust and air pollutant—including toxic air contaminant—emissions. However, similar to the proposed project, all construction-related fugitive dust emissions would be addressed through implementation of applicable control measures consistent with BAAQMD recommended guidelines. Therefore, under both the proposed project and this alternative, BMPs to control construction fugitive dust would be implemented and both would have less than significant impacts in this regard. Furthermore, implementation of MM AIR-3 would similarly ensure that potential health risk impacts related to construction DPM emissions would be reduced to less than significant.

As discussed above, this alternative proposes the same type of development and uses but at less intensity over the approximately 68-acre site. With less community care apartments and employment needs, this alternative would generate fewer daily vehicle trips than the project (see Transportation and Traffic below), and thus, this alternative would result in lower operational

emissions of criteria pollutants. Since operational emissions estimated for the proposed project were found to be below BAAQMD significance thresholds, operational emissions for this alternative would also be below these thresholds, and thus impacts would be less than significant.

As the type of land use development would be similar to the proposed project, it would be expected that this alternative's potential odor impacts would be also less than significant.

Biological Resources

This Reduced Density Alternative would result in a generally similar level of ground-disturbing activities as the proposed project. Therefore, because the area that would be disturbed by construction and operational activities would likely be similar to the proposed project, impacts on various biological resources would be similar as well, i.e., similar to the proposed project, this alternative would have potentially significant impacts on special-status wildlife and plant species, but these impacts could be mitigated to a less than significant level under both scenarios. This would also be the case with respect to potential impacts on sensitive habitat communities or riparian habitat and wildlife corridors; with imposition of identified mitigation; compliance with resource agency permitting requirements; and compliance with applicable requirements under the City's Creekside Development Ordinance (e.g., adherence to creek setbacks, etc.) would reduce impacts to a level that is less than significant. Tree removal would still occur, and it is anticipated the number of trees to be removed would be similar; however, under both scenarios, compliance with applicable provisions of the City's Tree and Creekside Development Ordinances would ensure that impacts in this regard remain less than significant. Similar to the proposed project, this alternative would result in biological resources impacts that would be less than significant with incorporation of identified mitigation.

Cultural and Tribal Cultural Resources

As noted above, depending on the design of the Reduced Density Alternative, it could result in a similar area of ground disturbance as that of the proposed project thereby presenting the same potential for unknown cultural resource discovery on-site and avoidance would be required. Mitigation regarding construction monitoring for historical, archaeological, and tribal/cultural burial sites and resources would be required. As such, this alternative could have similar cultural resource impacts as compared to the proposed project. Impacts under this alternative and the proposed project would be less than significant with the incorporation of mitigation.

Geology and Soils

This alternative would result in somewhat reduced exposure of residents to geological hazards due to the reduction in residential development. While impacts related to ground shaking, liquefaction, landslides, unstable soils, and expansive soils would have the potential to be reduced in the sense that fewer residents would occupy the project and be exposed to such risks, the same general impacts would occur under both scenarios and would be less than significant with mitigation. This alternative would have a similar area of ground disturbance; therefore, impacts related to soil erosion would be similar and would require similar mitigation. Overall, this alternative would have slightly fewer geology, soils, and seismicity impacts than the proposed project, due to the reduction in

residential units, although impacts would be less than significant with the incorporation of mitigation.

Greenhouse Gas Emissions and Energy

This Reduced Density Alternative would develop 216 fewer residential units than under the project requiring a less intensive overall construction effort, and therefore would be expected to result in fewer construction-related GHG emissions. Like the proposed project, this alternative would not result in the wasteful, inefficient, or unnecessary consumption of energy; and would not conflict with a Plan for Renewable Energy or Energy Efficiency. This alternative would generate fewer daily vehicle trips than the proposed project (see Transportation and Traffic below); therefore, GHG emissions from vehicle trips would be commensurately reduced. Likewise, the reduction in residential units would result in reduced emissions during operations from energy and water usage. This, in turn, would reduce the severity of GHG impacts. Since the estimated operational emissions attributed to the proposed project would be below BAAQMD's per capita emission significance thresholds after the implementation of mitigation, this alternative would also be expected to result in operational emissions below this threshold with the implementation of mitigation. Similar to the proposed project, this alternative would also be required to demonstrate compliance with regulations aimed at reducing GHG emissions, such as the City's Climate Action Plan. Overall, similar to the proposed project, this alternative's GHG impacts would be less than significant after the incorporation of mitigation.

Hazards and Hazardous Materials

As with the proposed project, this Reduced Density Alternative would involve residential uses, would not create a significant hazard to the public or environment related to the routine transport, use, or disposal of hazardous materials, nor would it emit hazardous emissions, be located on a site identified on a Cortese List, impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, or pose significant risks through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. Similar to the proposed project, this alternative would be required to adhere to all applicable laws and regulations governing hazardous materials; adhere to the City's LHMP and Emergency Operation Plan; testing of soils for potential contamination from historic land uses and from the 55-gallon drums on the site and implement recommendations accordingly. Overall, similar to the proposed project, this alternative would result in hazards and hazardous materials impacts that would be less than significant with incorporation of identified mitigation.

Hydrology and Water Quality

Under this Reduced Density Alternative, construction activities would require mitigation similar to the project in order to control sediment and erosion to ensure that no standards for water quality or waste discharge requirements are exceeded, as well as this alternative would be required to comply with applicable provisions of the Standard Urban Storm Water Mitigation Plan, the Stormwater LID Manual, and with the provisions of the construction stormwater permit. While fewer residential units would be constructed, the overall disturbance area would be approximately the same. This would generate similar runoff, have similar impacts on storm drainage collection, and result in similar amounts of

potential sediments. Also similar to the proposed project, this alternative would be required to adhere to applicable creek setbacks and be required to accommodate on-site flows in a manner that would not result in flooding or exceed the capacity of existing storm water facilities. In addition, both the project and this alternative would introduce a similar amount of impervious surfaces, but neither scenario would substantially deplete groundwater supplies, interfere substantially with groundwater recharge, or substantially alter the existing drainage pattern of the site or area.

Therefore, similar to the proposed project, this alternative would result in hydrology and water quality impacts that would be less than significant.

Land Use and Planning

Similar to the proposed project, this alternative would not physically divide an established community.

Also similar to the proposed project, this alternative would not conflict with land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. This Reduced Density Alternative would require the same entitlements as the proposed project, albeit for a different and reduced mix of residential units. The uses developed under this alternative would have physical characteristics and end uses aligned with the proposed project, and thus, consistent with the General Plan 2035 and Zoning Code. As this alternative would be a Continuing Care Retirement Community, impacts would similarly be evaluated in terms of intensity of use and consistency with the General Plan objectives. As discussed in Section 3.10, Land Use, the proposed project would help the City meet its objective to increase housing that provides services for a growing senior population. The proposed project is also consistent with applicable land use regulations and standards with respect to location and vicinity to other related facilities. It would likely still facilitate the need for connectivity between Sonoma Highway and Channel Drive. Therefore, this alternative would have similar land use impacts when compared with the proposed project; impacts would be less than significant.

Noise

Although fewer residential units would be constructed under this alternative, the overall construction footprint could be similar. Therefore, this alternative's estimated reasonable worst-case construction noise impacts (as well as those related to groundborne vibration and groundborne noise) likely would be similar to those under the proposed project. Similar to the proposed project, mitigation would be required to ensure that construction noise impacts are less than significant.

This alternative would generate fewer daily vehicle trips than the proposed project (see Transportation and Traffic below), which would result in slight reductions in traffic noise impacts. However, potential noise land use compatibility impacts from traffic noise would remain. Therefore, similar to the proposed project, mitigation would still be required to reduce this impact to less than significant.

This alternative could include similar, but not larger, mechanical ventilation systems and similar, but not greater, parking areas as the proposed project. Therefore, this alternative would also be expected to result in similar less-than-significant stationary operational source noise impacts.

Similar to the proposed project, this alternative would not introduce any permanent sources of groundborne vibration and, therefore, would be expected to result in less than significant groundborne vibration and groundborne noise. Because this alternative would be on the same site as the proposed project, it would also not result in any noise impacts related to airport activity.

Overall, this alternative would result in less than significant impacts with the implementation of mitigation.

Population and Housing

Based on a household size of 1.42 residents typical of other CCRC developments in Santa Rosa, the total estimated population on the project site under this alternative would be approximately 653, while the estimated population under the proposed project would be approximately 975. The California Department of Finance estimates the City of Santa Rosa has a population of 177,017, an average household size of 2.65, and 68,927 dwelling units as of January 1, 2019.³ Population is expected to grow to 221,800 by 2040. Both the proposed project and this alternative would represent an insignificant portion of the expected growth. Furthermore, both the proposed project and this alternative would be consistent with existing land use designations and therefore would be considered a part of the expected growth and would not induce substantial unplanned population growth in an area, either directly or indirectly. Direct impacts on population growth would be reduced because of fewer residential units, although impacts under both scenarios are less than significant in this regard. Moreover, fewer residential units also would mean a less positive impact on housing stock in Santa Rosa. This alternative would require fewer construction workers, as well as fewer on-site employees, so it also would have a less positive impact on local employment. Like the proposed project, it would not be required to contribute to affordable housing. Impacts would be similar to the proposed project. Similar to the proposed project, this alternative would not displace any existing housing units (since the three homes were destroyed in the Glass Fire), and therefore would not necessitate the construction of replacement housing elsewhere.

Overall, similar to the proposed project, this alternative would result in less than significant impacts to population and housing, similar to that of the proposed project, albeit potentially less beneficial.

Public Services

Under this Reduced Density Alternative, end uses would be similar to the project, albeit with a reduced on-site population and corresponding reduction in need for public services. Because of the reduced on-site population, this alternative would result in reduced demand for fire protection, police protection, and library services, although impacts would remain less than significant under both scenarios. Impacts on school facilities, already considered less than significant under the project, would be further reduced under this alternative, due to reduced on-site employee housing, which may house families with school-age children, although again, impacts under both scenarios remain less than significant. This project would be required to annex into Special Tax District 2006-1 to assist in funding public services. Mitigation regarding provision of AEDs and Lift Team Training would still be

³ California Department of Finance. 2019. E-1 Population Estimates for Cities, Counties, and the State—January 1, 2018 and 2019. Website: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>.

required. This alternative would have somewhat reduced public services impacts than the proposed project, although impacts would overall, be less than significant, similar to the proposed project.

Recreation

Under this Reduced Density Alternative, end uses would be similar to the project, albeit with a reduced on-site population and corresponding reduction in need for recreation facilities. Because of the reduced on-site population, this alternative would result in reduced demand for park and recreational facilities compared with the project. This alternative includes more on-site recreational amenities, to be located in areas where buildings from the proposed project would not be constructed. As with the project, this alternative would be required to dedicate park land or pay park development fees and there would still be a need for parkland dedication to address issues of public access to area parks and connectivity. This alternative generally would have fewer recreation impacts than the project, although both scenarios would result in less than significant impacts overall.

Transportation and Traffic

This Reduced Density Alternative would result in the development of 216 fewer residential units than the proposed project. Similar to the proposed project, this alternative would be constructed as a continuing care retirement community, and therefore, trip generation rates used for the proposed project were similarly applied. As a result, this alternative would result in a reduction in total residential daily trips: 1,303 daily trips as opposed to the project's 1,822 daily trips (Appendix I). However, because this alternative would develop 460 units, it would still result in significant unavoidable impacts similar to those of the proposed project albeit at a reduced severity. Mitigation for this alternative would be similar to what is identified for the project.

Utilities and Service Systems

Under this Reduced Density Alternative, end uses would be similar to the proposed project, albeit with a somewhat reduced on-site population and corresponding reduction in the need for utility services. Thus, this alternative would place less demand on the City's water and sewer systems. Similar to the proposed project, this alternative's residential uses would be served by, and subject to, applicable City standards and regulations for water, wastewater, and storm drainage, which would ensure that impacts under both scenarios remain less than significant. Thus, similar to the proposed project, this alternative would result in utility and service system impacts that are less than significant.

Wildfire

As with the proposed project, this Reduced Density Alternative would involve residential uses, would be required to adhere to all applicable laws and regulations governing wildfire risk; adhere to the City's LHMP and Emergency Operation Plan; and implementation of MM WILD-1, which would require the project to prepare an updated evacuation plan and map that shall be submitted for review by Traffic Engineering and the Fire Department and distributed to residents at project operation. Similar to the proposed project, under this alternative incorporation of General Plan Policies NS-G-1 through NS-G-6, along with multiple design features such as fire resistant materials, sprinkler systems, fuel breaks, and multiple access points to facilitate egress by residents and access by emergency responders, and Santa Rosa Weed Abatement Ordinance (Ordinance No. 3681) would

minimize the potential for damage or spread of wildfire. Similar to the proposed project, under this alternative development would include typical on-site infrastructure including roads, fire hydrants, and utilities where the installation and maintenance of such infrastructure would be completed in a typical manner and would not exhibit unusual characteristics that would exacerbate fire risk or create additional temporary or ongoing impacts to the environment. Similarly, the project site would still be located in Wildland-Urban Interface Fire Area and impacts associated with temporary increases to fire risks would be less than significant with incorporation of BMPs and mitigation measures during construction. Overall, similar to the proposed project, this alternative would result in wildfire impacts that would be less than significant with incorporation of identified mitigation.

5.5.2 - Conclusion

The Reduced Development Alternative would somewhat reduce the extent of certain significant impacts (i.e., aesthetics, air quality, GHG emissions, geologic, noise, public services and recreation, and utility impacts), but would not eliminate any significant and unavoidable impacts or reduce any impacts from significant to less than significant (as compared to the proposed project).

This alternative would meet some of the proposed project objectives to a certain degree, such as increase in housing stock, provision of senior housing, provision of employee housing, development of an infill site, and positive contribution to the local economy. However, for these objectives, the alternative would not contribute to their fulfillment as extensively as the proposed project. Specifically, it would not use the infill site as efficiently as the proposed project would; it would not provide as many housing units in a market where housing is badly needed; and it would reduce the availability of housing to senior citizens.

5.6 - Alternative 4—Reconfigured Site Plan Alternative

Under the Reconfigured Site Plan Alternative, the site plan for the proposed project would be reconfigured to provide a wider buffer around biologically sensitive areas identified on the project site. The total number of community care units that would be developed under this alternative would remain the same as the total number developed under the project (676 units). Table 5-3 summarizes the proposed care units and employment housing. However, no development would occur south of Annadel and Oakmont Creeks or on the hillside closest to the confluence of these creeks. These are areas adjacent to riparian habitat.

Table 5-3: Site Development under Reconfiguration Site Plan Alternative

General Plan Designation	Acres	Care Units and Type ¹
Community Care Facilities permitted in all General Plan Residential Land Use Categories	—	74 community care cottages
	—	62 community care units
	—	528 community care apartments
	—	12 employee housing units
Total	68.98	676 units
Notes:		
¹ Community Care Facilities regulated by intensity of use.		

Specifically, Buildings M, N, and P on the project site plan, which are proposed for development in that area would not be developed under this alternative. Instead, the 67 units from these buildings would be transferred to Buildings D, E, J, K, and the western arm of Building B. All these buildings, where the units would be shifted to are located towards the site interior. To accommodate the additional units, the height of these buildings would be raised to 50 feet (the general apartment building height proposed in the project is approximately 43 feet). All other residential development—the cottages, the 62-bed care center, the employee housing—would be the same as the project.

Access to the site would be the same as under the project, with access points from Sonoma Highway and Melita Road. However, the creek bridge connecting buildings N and P to the on-site network of streets would not be constructed. This alternative would have a more compact development footprint, disturbing approximately 4 less acres than the proposed project;⁴ this would mean a greater amount of natural open space on the site compared with the project. Infrastructure services provided under this alternative would remain the same as under the project, but the reduced development footprint would mean fewer connections.

5.6.1 - Impact Analysis

Aesthetics

This alternative would develop the project site with the same type of land uses and at similar intensities as the proposed project. However, land uses and development would be reconfigured and within a somewhat smaller development area. Development would be designed to avoid a portion of the ridge and the area that surrounds Annadel and Oakmont Creek by removing Building M and areas south of Oakmont Creek by removing Buildings P and N.

Similar to the proposed project, the City would require the project applicant to submit a modified Policy Statement, which would contain a conceptual site plan that includes detailed architectural styles or themes, building design, and landscaping plans among other things. The City would review the Policy Statement for consistency with applicable goals and policies of the General Plan 2035 and condition the project to protect visual resources accordingly to the extent feasible.

The visual appearance of the residential structures would be the same as the proposed project, as these buildings would be subject to design review to ensure they comply with community standards. However, because of increased height of the apartment buildings of approximately 7 feet, these buildings are likely to be more visible from the roads adjacent to the project site, particularly from Sonoma Highway. As illustrated in Section 3.1, Aesthetics, Exhibit 3.1-5, Photograph A, apartment buildings proposed under the proposed project would be partially visible from Sonoma Highway. The taller buildings proposed under this alternative would be more of an intrusion on this view but would not block views of the ridgeline beyond located in Trione-Annadel State Park. In addition, employee housing would remain visible under this alternative, as illustrated in Exhibit 3.1-5, Photograph B.

While some buildings (Buildings N and P) would be eliminated from views from Channel Drive (see Section 3.1, Aesthetics, Exhibit 3.1-7, Photograph A), other buildings set further back (Buildings J and

⁴ This is an approximation based on-site plan information and measured using Google Earth.

K) may become visible because of the height increase. As compared to the proposed project, views of this alternative as seen from Los Alamos Road, would experience greater impacts because the height of apartment buildings would be increased. Views from Melita Road would not change under this alternative.

Development under this alternative would have less of an impact to on-site existing natural landscapes than the proposed project, particularly south of Oakmont Creek. However, this alternative would have a greater impact on scenic views and visual character. Building design and site-specific measures may reduce intrusion on scenic views from taller buildings to a certain degree, and development under this alternative would be required to ensure consistency with applicable City standards intended to protect scenic views and visual character, similar to the proposed project. Since the development footprint under this alternative would be somewhat smaller, lighting and glare would occur in a more compact area. However, similar to the proposed project, this alternative would be required to abide by City Code Chapter 20-30.080 that limits the amount of allowable light trespass onto adjoining properties and avoids impacts to nighttime lighting, and thus impacts under both scenarios would be less than significant. This alternative generally would have an increased level of aesthetic impacts than the project because of the increased building height. Like the proposed project, this alternative would result in significant and unavoidable impacts to aesthetics.

Air Quality

This alternative would develop the project site with the same type of land uses and at similar intensities as the proposed project, and would therefore be expected to not conflict with or obstruct implementation of the applicable air quality plan as this alternative would be consistent with population projections reflected in regional and local planning documents. This alternative would also be required to implement all applicable air quality pollution control measures; and, similar to the proposed project, would not be expected to exceed any applicable air quality emissions standards.

While this alternative's construction footprint would be smaller than that of the proposed project, the number of residential units would remain the same, and apartment buildings may take longer to construct because building heights would increase. On balance, it is anticipated that the amount of overall construction emissions under this alternative would be similar to the project. However, similar to the proposed project, this alternative would also be required to implement the Air District's BMPs to control construction fugitive dust which would ensure construction-related air pollutant and fugitive dust emission impacts would be less than significant. Implementation of MM AIR-3 would similarly ensure that potential health risk impacts related to construction DPM emissions would be reduced to less than significant.

Again, because this alternative would develop the project site with the same type of land uses and at similar intensities as the proposed project, operational emissions under this alternative are anticipated to be similar to those under the proposed project. This alternative would generate a similar number of daily vehicle trips as the proposed project (see Transportation and Traffic below), which would result in a similar level of air pollutant emission impacts from mobile sources. Therefore, similar to the proposed project it would be expected the project operational emissions would not exceed any applicable standard for criteria air pollutants and would be less than significant.

As the type of land use development would be similar to the proposed project, it would be expected that this alternative's potential odor impacts would be also less than significant.

Overall, air quality impacts resulting from this alternative would be less than significant with mitigation.

Biological Resources

This Reconfigured Site Plan Alternative would result in reduced ground-disturbing activities because of the reduced development area, thereby providing a wider buffer around some on-site sensitive biological resources such as Annadel and Oakmont Creeks. However, similar to the proposed project, this alternative would have significant impacts on special-status wildlife and plant species, and these impacts could be mitigated to a less than significant level.

Since development on the portion of the project site near Annadel and Oakmont Creeks would be avoided, the potential for impacts to waters of the United States and wetlands would be less than under the project, although similar mitigation would still be required for other on-site creek and potential wetland areas. This would also be the case with respect to potential impacts on sensitive habitat communities or riparian habitat and wildlife corridors; with imposition of identified mitigation; compliance with resource agency permitting requirements; and compliance with applicable requirements under the City's Creekside Development Ordinance (e.g., adherence to creek setbacks, etc.) would reduce impacts to a level that is less than significant. Tree removal would still occur, but the number of trees removed would be less under this alternative given the smaller amount of ground disturbance; however, compliance with the City's Tree and Creekside Development Ordinances would ensure that impacts in this regard are less than significant. Similar to the proposed project, this alternative would result in biological resources impacts that would be less than significant with incorporation of identified mitigation, albeit slightly reduced due to the reduced footprint.

Cultural and Tribal Cultural Resources

This Reconfigured Site Plan Alternative would result in reduced ground-disturbing activities because of the reduced development area, although overall, this alternative would result in potentially similar impacts on cultural resources that may exist on the site, which could be disrupted during construction. Mitigation regarding construction monitoring for, and protection of historical, archaeological, and tribal cultural resources, and burial sites still would be required, similar to the project. Similar to the proposed project, this alternative would result in cultural resources impacts that would be less than significant with incorporation of identified mitigation, albeit slightly reduced due to the reduced footprint.

Geology and Soils

Under this Reconfigured Site Plan Alternative, fewer buildings would be subject to hazards associated with ground shaking, liquefaction, landslides, unstable soils, and expansive soils. However, the number of residential units would be the same as under the project, so it is expected that as many residents would be subject to these risks as under the project. Because of this, mitigation similar to the project would still be required.

This alternative would result in reduced development and ground-disturbing activities; therefore, impacts related to soil erosion would be decreased. Nevertheless, the potential for soil erosion would remain under this alternative, so mitigation similar to the project would still be required. This alternative would have a similar level of geology, soils, and seismicity impacts as the project, except for soil erosion, because the number of residential units would be the same. Impacts under this alternative and the proposed project would be less than significant with the incorporation of mitigation.

Greenhouse Gas Emissions and Energy

As noted in the Air Quality discussion above, fewer buildings would be constructed, but the number of residential units would remain the same, and apartment buildings may take slightly longer to construct because of the added height. Therefore, it is anticipated that the amount of overall construction-related GHG emissions generated under this alternative would not be significantly different than under the proposed project. Like the proposed project, this alternative would not result in the wasteful, inefficient, or unnecessary consumption of energy; and would not conflict with a Plan for Renewable Energy or Energy Efficiency. Operational GHG emissions under this alternative are anticipated to be similar to those under the project, because mobile emissions and operational water and energy usage would be similar. Overall, GHG emission impacts under this alternative would be similar to those under the proposed project, which are less than significant after incorporation of mitigation. Similar to the proposed project, this alternative would also be required to demonstrate compliance with regulations aimed at reducing GHG emissions, such as the City's Climate Action Plan.

Hazards and Hazardous Materials

As with the proposed project, this Reconfigured Site Plan Alternative would involve residential uses, would not create a significant hazard to the public or environment related to the routine transport, use, or disposal of hazardous materials, nor would it emit hazardous emissions, be located on a site identified on a Cortese List, impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, or pose significant risks through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. Similar to the proposed project, this alternative would be required to adhere to all applicable laws and regulations governing hazardous materials; adhere to the City's LHMP and Emergency Operation Plan; and also would be required to test soils for potential contamination from historic land uses on the site and implement recommendations accordingly. Since development would avoid the southern portion of the project site, potential contamination from historic land uses and from the 55-gallon drums would not be encountered. Overall, similar to the proposed project, this alternative would result in hazards and hazardous materials impacts that would be less than significant with incorporation of identified mitigation.

Hydrology and Water Quality

As noted in the Biological Resources discussion above, development on the portion of the proposed project site near Annadel and Oakmont Creeks would be avoided under this Reconfigured Site Plan Alternative. A wider buffer around these biologically sensitive areas of the site would be provided to further reduce potential adverse impacts on these creeks compared with the proposed project. In

addition, since the overall amount of ground disturbance would be somewhat less, there would be fewer opportunities for sediments to enter streams and fewer impervious surfaces would be installed.

Construction activities under this alternative would require mitigation similar to the proposed project in order to control sediment and erosion to ensure that no standards for water quality or waste discharge requirements are exceeded, as well as this alternative would be required to comply with applicable provisions of the Standard Urban Storm Water Mitigation Plan, the Stormwater LID Manual, and with the provisions of the construction stormwater permit. Also similar to the proposed project, this alternative would be required to adhere to applicable creek setbacks and be required to accommodate on-site flows in a manner that would not result in flooding or exceed the capacity of existing storm water facilities. In addition, neither scenario would substantially deplete groundwater supplies, interfere substantially with groundwater recharge, or substantially alter the existing drainage pattern of the site or area.

Overall, while this alternative would have fewer hydrology and water quality impacts than the project, under both scenarios, impacts would be less than significant.

Land Use and Planning

Similar to the proposed project, this alternative would not physically divide an established community. Also similar to the proposed project, this alternative would not conflict with land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

This Reconfigured Site Plan Alternative would generally require the same entitlements as the proposed project, albeit for a smaller development area and without the need for a hillside development permit. The uses proposed under this alternative would have physical characteristics and end uses similar to the project and since this alternative involves development of a State licensed Community Care Facility for the elderly, it is not considered a residential use for the purposes of determining density, and is evaluated in terms of intensity of use. Building height is limited to 45 feet in the R-3 zone; thus, structures under this alternative would require an exception. There are no explicit height limitations in the PD zone and development would be subject to an approved Policy Statement that contains a detailed site plan for development throughout the site. Consistent with applicable City land use regulations and policies, this alternative would be required to adhere to applicable development standards to ensure compatibility with surrounding land uses. Therefore, this alternative would have similar land use impacts when compared to the proposed project; impacts would be less than significant.

Noise

As noted previously, while the same number of residential units would be constructed under this alternative, the construction footprint would change slightly. Therefore, this alternative's estimated reasonable worst-case construction noise impacts (as well as those related to groundborne vibration and groundborne noise) would be similar to those under the proposed project. Similar to the proposed project, mitigation would be required to ensure that construction noise impacts are less than significant.

This alternative would generate a similar number of daily vehicle trips as the proposed project (see Transportation and Traffic below), which would result in similar traffic noise impacts. Therefore, potential noise land use compatibility impacts from traffic noise would remain, and mitigation would still be required to reduce this impact to less than significant.

This alternative could include similar, but not larger, mechanical ventilation systems and similar, but not greater, parking areas as the proposed project. Therefore, this alternative would also be expected to result in similar less-than-significant stationary operational source noise impacts.

Similar to the proposed project, this alternative would not introduce any permanent sources of groundborne vibration and, therefore, would be expected to result in less than significant groundborne vibration and groundborne noise. Because this alternative would be on the same site as the proposed project, it would also not result in any noise impacts related to airport activity.

Overall, noise impacts related to this alternative would be less than significant impacts.

Population and Housing

The total population under this alternative would remain the same as under the project, approximately 975. Since the number of residential units would remain the same, this alternative would not conflict with regional population growth projections and would not induce substantial unplanned population growth in an area, either directly or indirectly. Direct impacts on population growth would be the same, because number of residential units would be the same, although impacts under both scenarios are less than significant in this regard. This also would mean impacts on housing stock in Santa Rosa would be the same. This alternative most likely would require a similar number of construction workers for the proposed project, as well as require the same number of on-site employees, so impacts related to employment would be the same.

Section 3.11, Population and Housing, outlines City goals and programs related to population growth and housing, including the Growth Management Program and the Housing Allocation Program. This alternative would be consistent with these City goals and programs. Similar to the proposed project, this alternative would not displace any housing units (since the three homes were destroyed in the Glass Fire), and therefore would not necessitate the construction of replacement housing elsewhere. Overall, similar to the proposed project, this alternative would result in less than significant impacts to population and housing.

Public Services

Under this Reconfigured Site Plan Alternative, end uses would be similar to the proposed project. Since the number of residential units would remain the same as under the project, this alternative would have the same on-site population and, therefore, would have the same demand for fire protection, police protection, and library services as under the project. Impacts on school facilities generally would be the same under this alternative and the proposed project, as the resident population would be age-restricted and predominantly retired and would not have school-age children. Mitigation regarding provision of AEDs and Lift Team Training, as well as annexation into

Special Tax District 2006-1 would still be required. This alternative would have less than significant public services impacts similar to the proposed project.

Recreation

Under this Reconfigured Site Plan Alternative, end uses would be similar to the proposed project. Because the on-site population would be the same, the number of amenities that would be provided under the proposed project also would be provided under this alternative. In turn, this is expected to result in the same demand for park and recreational facilities as under the proposed project, which is considered less than significant. As with the proposed project, this alternative would be required to pay park development fees. This alternative would have the same recreation impacts as the project; impacts would be less than significant under this alternative and the proposed project.

Transportation and Traffic

This Reconfigured Site Plan Alternative would result in the development of the same number of residential units as the proposed project. As a result, this alternative would generate the same number of residential daily trips as the project. Therefore, impacts related to safety would be the same. Overall, this alternative would have the same transportation impacts as the proposed project.

Utilities and Service Systems

Under this Reconfigured Site Plan Alternative, end uses would be similar to the proposed project. Since the total number of residential units would remain the same, as would the composition of these units, water and wastewater demands under this alternative would be the same as under the project. Similar to the proposed project, this alternative's residential uses would be served by, and subject to, City standards and regulations for water, wastewater, and storm drainage. This alternative would result in the same demand for water and energy and the same generation of solid waste as the proposed project, because the number of residential units under this alternative and the proposed project would be the same. Thus, similar to the proposed project, this alternative would result in utility and service system impacts that are less than significant.

Wildfire

As with the proposed project, this Alternative would involve residential uses and be required to adhere to all applicable laws and regulations governing wildfire risk; adhere to the City's LHMP and Emergency Operation Plan; and implementation of MM WILD-1, which would require the project to prepare an updated evacuation plan and map that shall be submitted for review by Traffic Engineering and the Fire Department and distributed to residents at project operation. Similar to the proposed project, under this alternative incorporation of General Plan Policies NS-G-1 through NS-G-6, along with multiple design features such as fire resistant materials, sprinkler systems, fuel breaks, and multiple access points to facilitate egress by residents and access by emergency responders, and Santa Rosa Weed Abatement Ordinance (Ordinance No. 3681) would minimize the potential for damage or spread of wildfire. Similar to the proposed project, under this alternative development would include typical on-site infrastructure including roads, fire hydrants, and utilities where the installation and maintenance of such infrastructure would be completed in a typical manner and would not exhibit unusual characteristics that would exacerbate fire risk or create additional

temporary or ongoing impacts to the environment. Similarly, the project site would still be located in Wildland-Urban Interface Fire Area and impacts associated with temporary increases to fire risks would be less than significant with incorporation of BMPs and mitigation measures during construction. Overall, similar to the proposed project, this alternative would result in wildfire impacts that would be less than significant with incorporation of identified mitigation.

5.6.2 - Conclusion

The Reconfigured Site Plan Alternative would somewhat reduce the extent of certain impacts (i.e., biological, cultural, geologic (soil erosion), hazardous material, hydrological, and construction noise impacts), but would not eliminate any significant and unavoidable impacts or reduce any impacts from significant to less than significant (as compared to the proposed project). As with the proposed project, the significant unavoidable aesthetics impacts would still exist under this alternative. Aesthetic impacts would actually increase to a certain degree, related to increased building height and the visibility of those buildings from public view points.

This alternative would meet some of the proposed project objectives: increasing available housing, accommodating the City's growing population and thereby contributing to the local economy, offering senior and employee housing options, developing a complete community, preservation of open space areas and Oakmont Creek, and promoting land use compatibility (although it results in increased aesthetic impacts in certain areas). This alternative would develop a vacant infill site, but it would not use the existing site as efficiently as the proposed project would. In summary, while this alternative would reduce the degree of significant (but mitigatable) impacts to a point, and it would meet some of the project objectives, it would not eliminate any significant and unavoidable impacts and would increase aesthetic impacts to a certain degree.

5.7 - Environmentally Superior Alternative

Table 5-4 presents a comparative summary of the alternatives considered in this analysis. The proposed project, with mitigation, would result in significant and unavoidable impacts relating to aesthetic resources and transportation. The proposed project impacts are stated in Table 5-4 as levels of significance after implementation of mitigation measures identified in Sections 3.1 through 3.15. The determinations presented in the table are based on the previous analyses prepared for each alternative.

Table 5-4: Summary of Alternatives

Impact	Proposed Project	Alternative 1 – No Project Alternative	Alternative 2 – Existing General Plan Alternative	Alternative 3 – Reduced Density Alternative	Alternative 4 – Reconfigured Site Plan Alternative
Aesthetics	SU	NI	SU	SU	SU
Air Quality	LSM	NI	SU	LSM	LSM
Biological Resources	LSM	NI	LSM	LSM	LSM
Cultural and Tribal Cultural Resources	LSM	NI	LSM	LSM	LSM

Impact	Proposed Project	Alternative 1 – No Project Alternative	Alternative 2— Existing General Plan Alternative	Alternative 3—Reduced Density Alternative	Alternative 4— Reconfigured Site Plan Alternative
Geology and Soils	LSM	NI	LSM	LSM	LSM
Greenhouse Gas Emissions and Energy	LSM	NI	SUM	LSM	LSM
Hazards, Hazardous Materials, and Wildfire	LSM	NI	LSM	LSM	LSM
Hydrology and Water Quality	LS	NI	LS	LS	LS
Land Use and Planning	LS	NI	LS	LS	LS
Noise	LSM	NI	LSM	LSM	LSM
Population and Housing	LS	NI	LS	LS	LS
Public Services	LSM	NI	LS	LSM	LSM
Recreation	LS	NI	LS	LS	LS
Transportation and Traffic	LSM	NI	LSM	LSM	LSM
Utilities and Service Systems	LS	NI	LS	LS	LS
<p>Notes:</p> <p>NI = no impact</p> <p>LS = less than significant</p> <p>LSM = less than significant with mitigation incorporated</p> <p>SU = significant and unavoidable</p> <p>SUM = significant and unavoidable with mitigation incorporated</p> <p>Source: FirstCarbon Solutions (FCS). 2018.</p>					

CEQA Guidelines Section 15126(e)(2) requires an EIR to identify an environmentally superior alternative. As shown in Table 5-4, the No Project Alternative (Alternative 1) would result in no impacts and therefore would be the environmentally superior alternative. Among the remaining alternatives, the Existing General Plan Alternative (Alternative 2) would result in more significant unavoidable impacts as compared to the proposed project, relating to air quality and greenhouse gases. The Reduced Density Alternative (Alternative 3) and the Reconfigured Site Plan Alternative (Alternative 4) would result in similar impact significance conclusions as compared to the proposed project. None of the alternatives would eliminate significant and unavoidable impacts relating to aesthetic resources even with the implementation of mitigation. As such, the Reduced Density Alternative (Alternative 3) is considered the second environmentally superior alternative because it would result in reduced level of impact as a result of the reduced building square footage, reduced units, and reduced operation emissions. However, as described above, while the Reduced Density Alternative would meet some of the proposed project objectives, to a certain degree, such as increase in housing stock, provision of senior housing, provision of employee housing, development of an infill site, and positive contribution to the local economy. However, for these objectives, the alternative would not contribute to their fulfillment as extensively as the proposed project. Specifically, it would not use the infill site as efficiently as the proposed project would (and thus would not preserve significant amounts of open space areas to the same degree); it would not

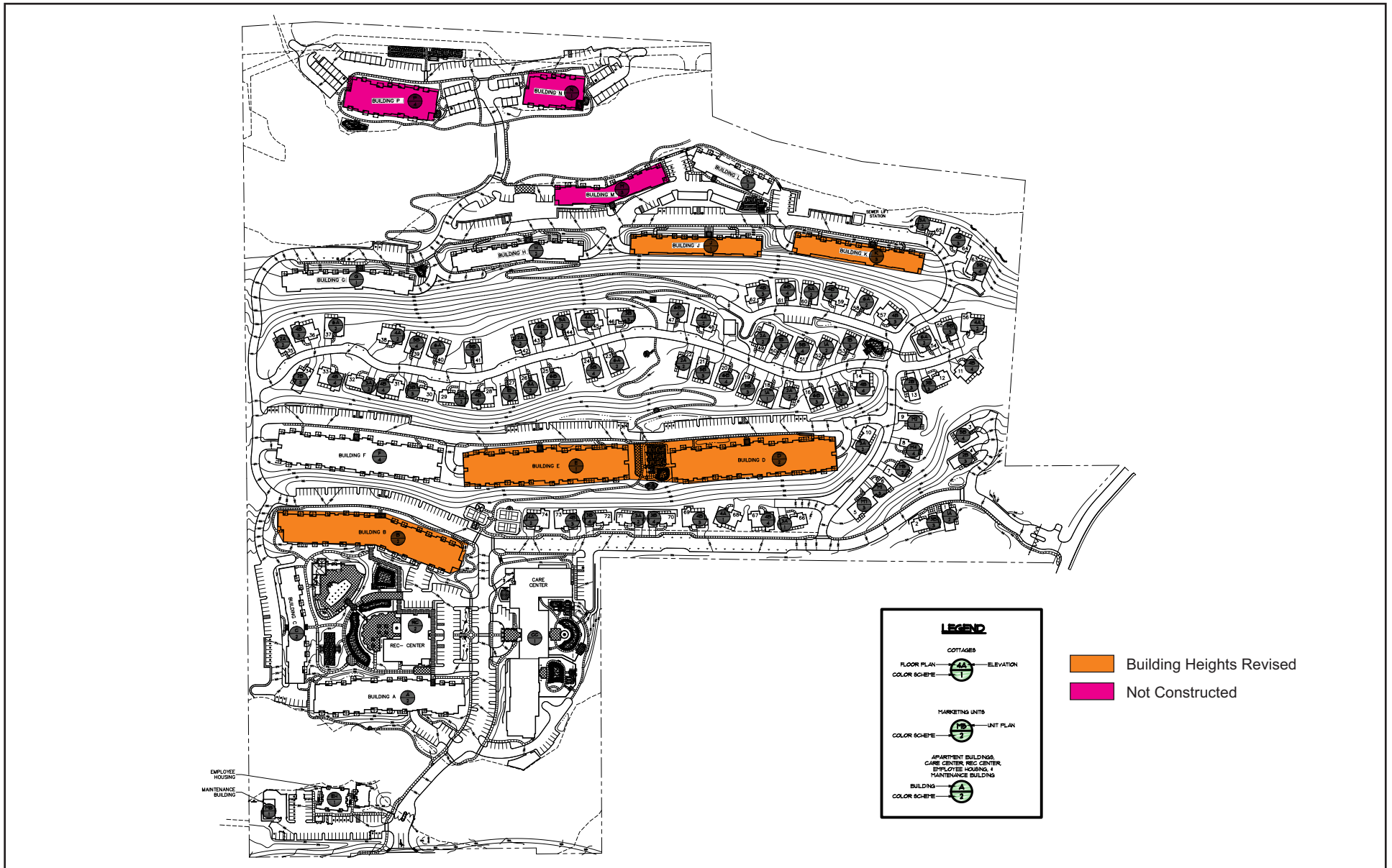
provide as many housing units in a market where housing is badly needed; and it would reduce the availability of housing to senior citizens.

5.8 - Alternatives Rejected from Further Consideration

The City considered another reconfigured site plan alternative with different access points to avoid the significant unavoidable transportation impacts of the project. However, this alternative was dismissed, as there was no feasible alternative to a main access point via Sonoma Highway. The City also considered an alternative where the project site would be built with 272 senior cottages. However due to the economic infeasibility of this development type, this alternative was dismissed.

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Source: Brelje and Race, 2017

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Exhibit 5-2 Alternative 3 - Reconfigured Site Plan

CITY OF SANTA ROSA • ELNOKA CCRC PROJECT
ENVIRONMENTAL IMPACT REPORT

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CHAPTER 6: OTHER CEQA CONSIDERATIONS

6.1 - Significant Unavoidable Impacts

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

Based on the analyses contained in this Draft EIR, the City has determined that the project in conjunction with cumulative development in eastern Santa Rosa would result in the project-level and cumulative significant and unavoidable impacts listed below.

6.1.1 - Aesthetics Impacts

- **Scenic Vista:** The impact of developing the project's 676 residential units and related improvements and amenities on approximately 68 acres would result in a visually dense, and therefore, inconsistent character with surrounding areas given their rural residential nature, thereby adversely affecting the scenic vista as viewed from surrounding scenic roads (Los Alamos Road) and other public locations. The project would comply with the City's hillside development standards by siting structures in the least prominent locations and using trees, vegetation, and depressions in topography as natural screening. The project would comply with applicable provisions of Chapter 20-34 of the City Code by establishing landscape standards to help mitigate the effects of urbanization. The project would preserve a significant number of trees (approximately 75 percent of existing on-site trees would remain); would plant a significant number of new trees in accordance with the City's Tree Preservation Ordinance; and would use drought-tolerant landscaping to the extent feasible and integrate natural space to provide an aesthetically pleasing urban setting. In addition, approximately 24 percent of the site would be retained as natural open space and an additional approximately 34 percent of the site would be maintained as landscaped space. Adherence to these project design features, development standards, and design guidelines would ensure consistency with applicable provisions of the Urban Design Element of Santa Rosa General Plan 2035. However, due to site configuration constraints, as well as the nature and scope of the project being proposed, no feasible mitigation is available for the proposed project that would reduce this impact to less than significant. As such, although the project would be consistent with applicable General Plan and Zoning regulations, including the modified Policy Statement, a significant unavoidable impact would occur.
- **Visual Character:** The project site is a prominent portion of the overall middle-distance view as seen from Los Alamos Road (a designated scenic road). As noted above, given the rural residential nature of the surrounding setting, the building density and massing of the project is inconsistent with the character of the surrounding views of rural residential uses. As such, the visual character of the area as seen from this view point is adversely affected and impacts would be significant. In addition, views of the project site from higher elevations in Trione-Annadel State Park would be visually inconsistent with the surrounding visual character similar to the impact to views seen from Los Alamos Road. Further, views of the site from Channel Drive

would change from a wooded area and hillside, to that of a neighborhood with apartments, albeit screened somewhat from view by vegetation. As such, the visual character of the area as seen from this view point is adversely affected and impacts would be significant. Therefore, impacts to other publicly-available views of the project site and surrounding area as seen from afar (particularly higher elevations in Trione-Annadel State Park) would be significant. No feasible mitigation is available for the proposed project that would reduce this impact to less than significant due to site configuration constraints as well as the nature and scope of the project being proposed. As such, a significant and unavoidable impact would occur.

6.2 - 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 proposed project's characteristics that may encourage and facilitate activities that individually or cumulatively may affect the environment must be evaluated (CEQA Guidelines § 15126.2(d)). The CEQA Guidelines, as interpreted by the City, state that a significant growth-inducing impact may result if the project would:

- Induce substantial population growth in an area (for example, by proposing new homes and commercial or industrial businesses beyond the land use density/intensity envisioned in the general plan);
- Substantially alter the planned location, distribution, density, or growth rate of the population of an area; or
- Include extensions of roads or other infrastructure not assumed in the general plan or adopted capital improvements project list, when such infrastructure exceeds the needs of the project and could accommodate future developments.

Direct growth-inducing impacts occur when the development of a project imposes new burdens on a community by directly inducing unplanned 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 project site is located in a partially developed area of Santa Rosa, within the City's municipal limits and the City's Urban Growth Boundary. Implementing the project would directly induce growth in the City, but not in a manner that is beyond the citywide land use densities/intensities envisioned in the Santa Rosa General Plan 2035 for this area of Santa Rosa. According to the US Census Bureau's American Community Survey, as of 2016, the City's population was 173,165

people.¹ According to the Association of Bay Area Governments (ABAG), the population of the City is expected to increase by approximately 48,635 people from the 2016 population estimates by 2040, resulting in a total anticipated population of 221,800 by 2030.²

The project would develop approximately 676 residential units and related improvements and amenities and would be expected to result in a population of roughly 975 persons. In addition, the project would be expected to employ 194 people with an average of 75 employees on-site daily. Conservatively assuming that all 975 persons and 194 residents would be new to Sonoma County, the project's population would represent an insignificant 0.66 percent of the total 176,799 population of Santa Rosa as reported by the California Department of Finance in 2017. Therefore, direct population growth as a result of the project is considered negligible. In addition, this direct population growth that could be accommodated by the project would be consistent with growth projections for the City as projected by ABAG.

In addition to residential units, direct growth from the project would include retail and service commercial facilities, public institutional facilities, and recreational facilities for purposes of serving the project's residents, as well as improvements to certain City roadways near the project site. This growth would add jobs under the project. Infrastructure and services would be installed as necessary to serve the project, without significant excess capacity that might encourage additional growth beyond that already planned for in the Santa Rosa General Plan. As a result, the project would create minimal to no indirect growth that would be inconsistent with ABAG's projections for the City.

The project would also not significantly and adversely affect the permanent jobs/housing balance. The project would create residential and nonresidential development and jobs, but would not create a housing demand above what would otherwise occur in the City. The project would include up to 676 new residential units and up to 975 new residents. New residents would be senior and would not necessarily be expected to have existing jobs in the greater San Francisco Bay Area. In addition, the project would result in approximately 194 full- and part-time jobs that would draw from the local labor pool while also providing 12 on-site employee housing units. Although not all employees could live on the project site, the majority of employees would be expected to already reside in Santa Rosa or nearby areas in Sonoma County. Nevertheless, housing included as part of the project would help the City achieve a more even jobs/housing balance by providing much-needed housing.

The project site currently consists of primarily vacant, undeveloped land. Implementing the project would not require the significant extension of electrical, natural gas, or water utility infrastructure, but would require connections to existing utilities infrastructure on and adjacent to the project site. The project would not extend urban infrastructure in a manner that would induce growth in other areas, because the adjacent areas are already developed and zoned residential. Furthermore, the project would be generally compatible with the surrounding residential uses and not pressure adjacent properties to redevelop with new or different land uses. As a result, it is not anticipated

¹ U.S. Census Bureau, American Fact Finder. 2016. Website:
<https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>.

² California Department of Finance, 2017.

that nearby residents would relocate. Therefore, the project would not remove a barrier to growth nor create an indirect population increase.

Since the project would not result in indirect growth, negatively alter the existing jobs/housing balance, or be inconsistent with the Santa Rosa General Plan or ABAG's direct growth projections for the City, implementation of the project would have a less than significant growth-inducing impact. No mitigation measures are necessary.

6.3 - Significant Irreversible Environmental Changes

As mandated by CEQA Guidelines Section 15126.2(c), the EIR must address significant irreversible environmental changes that would result from implementation of the project. Specifically, such an irreversible environmental change would occur if:

- The project would involve a large commitment of nonrenewable resources;
- Irreversible damage can result from environmental accidents associated with the project; and
- The proposed consumption of resources is not justified (e.g., the project results in the wasteful use of energy). (Refer to Section 3-6, Greenhouse Gas Emissions and Energy, and Section 3-15, Utilities and Service Systems, which addresses the project's energy usage.)

The project involves the construction and operation of a continuing care retirement community that offers residents a range of housing opportunities and amenities on-site. The site design would cluster development, so that over 58 percent of the site would be left as natural open space or landscaped area. Additionally, over 75 percent of the trees on-site would remain in place.

Construction debris recycling practices would be expected to allow for the recovery and reuse of building materials such as concrete, lumber, and steel and would limit disposal of these materials, some of which are non-renewable. Construction would include the use of building materials, such as petroleum-based products and metals that cannot reasonably be recreated. Construction also would involve significant consumption of energy typical for this type of project, usually petroleum-based fuels that deplete supplies of nonrenewable resources. Construction of structures and infrastructure would consume energy and water; however, because of its temporary and one-time nature, construction under the project would not represent a significant irreversible use of resources.

Once construction is complete, the land uses associated with the project would use some nonrenewable fuels to heat and light structures and consume water. The new residential and recreational uses and other improvements and amenities would be required to be built to and adhere to the latest adopted edition of the California Green Building Standards Code, which includes a number of standards that would reduce energy demand, water consumption, wastewater generation, and solid waste generation that would collectively reduce the demand for resources. This would result in the emission and generation of less pollution and effluent and lessen the severity of corresponding environmental effects. Thus, although the project would result in an irretrievable commitment of non-renewable resources, energy for heat and light and water for irrigation and plumbing would not be consumed inefficiently, unnecessarily, or wastefully.

Furthermore, the proposed residential and recreational uses and other improvements and amenities do not have the potential to cause significant environmental accidents through releases into the environment, as they would not involve large quantities of hazardous materials, as discussed in Section 3-7, Hazards, Hazardous Materials and Wildfire. However, the project site is located in an area that is prone to wildfires and is located in the Wildland Urban Interface Fire Area delineated by the City where fire response time goals are not currently being met. Note that the project site was not identified as a very high fire hazard zone within the Local Responsibility Area (LRA) or State Responsibility Area (SRA) maps provided by the California Department of Forestry and Fire Protection (CAL FIRE). As discussed in Section 3.12, Public Services, the Santa Rosa Fire Department (SRFD) provides fire protection services. Services include responses to structure, wildland, and other fire-related incidents. The SRFD conducts fire inspections of commercial and residential structures, and may inspect buildings for unsafe conditions or fire code violations in response to citizen concerns. The project would be located in the eastern portion of the City where service response time standards are not currently being met. However, the City is currently updating the SRFD long-range plan that evaluates service demands and assesses the need for an additional fire station. In addition, the project would provide emergency access points at the project site, adhere to the City's Special Tax Financing Code and Local Hazard Mitigation Plan (LHMP), implement weed and vegetation management programs, and adhere to the most recently adopted State and City fire codes.

The project would include typical on-site infrastructure including roads, fire hydrants, and utilities. According to the City of Santa Rosa General Plan 2035, Policies NS-G-1 through NS-G-6, incorporation of multiple design features would be required and would assist in minimizing the potential for fire. Furthermore, the project itself, does not contain any uses or features that would exacerbate wildfire risks or place occupants at a greater risk to wildfire pollutants or uncontrolled wildfire. The project would also be required to comply with applicable provisions of the California Fire Code with regard to access and building materials. Public Resources Code 4291 further requires the project to maintain, at all times, a minimum of 30 feet of defensible space in every direction from structures adjacent to forest, brush, grass, or lands covered with flammable material. In addition, new construction would comply with applicable requirements as set forth in Chapter 7A of the most current adopted California Building Standards Code (CBC) and with the Santa Rosa General Plan 2035 Policy NS-G with the goal of reducing risk due to wildland fire. As such, the proposed design would incorporate fire safety features and comply with the applicable fire safety provisions of the CBC, thereby reducing the risk of loss, injury, or death involving wildland fires.

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CHAPTER 7: PERSONS AND ORGANIZATIONS CONSULTED/LIST OF PREPARERS

7.1 - Persons and Organizations Consulted

7.1.1 - Lead Agency

City of Santa Rosa

Planning and Economic Development Department

Planning Division

Supervising Planner Bill Rose
Acting Supervising Planner Andrew Trippel
Senior Planner Andy Gustavson
Senior Planner Susie Murray

Building Department

Supervising Engineer Michael Enright

Engineering Division

Assistant Engineer Jesus McKeag

Housing Division

Housing and Community Services Manager Megan Basinger

City Attorney's Office

Assistant City Attorney Molly MacLean

Parks Department

Parks Maintenance Superintendent Lisa Grant

Transportation and Public Works

Water Department

Deputy Director Water and Engineering Jennifer Burke
Senior Water Resources Planner Colin Close
Sustainability Coordinator Tasha Wright

Deputy Director Engineering Services Lori Urbanek
Deputy Director Traffic Engineering Rob Sprinkle
Traffic Planner Nancy Adams

Fire Department

Chief Anthony Gossner
Fire Marshal Scott Moon

Assistant Fire Marshall.....Paul Lowenthal

Police Department

Administrative Services Officer Jodi Frost

7.1.2 - Public Agencies

Local Agencies

Rincon Valley Library

Branch Manager..... Jennifer Duran

Santa Rosa City Schools District

Chief Assistant to the Superintendent Lori Kolacek

Rincon Valley Union Elementary School District

Superintendent Dr. Tony Roehrick

7.2 - List of Preparers

7.2.1 - Lead Agency

City of Santa Rosa

Supervising Planner Bill Rose

Acting Supervising Planner Andrew Trippel

Senior Planner Andy Gustavson

Senior PlannerSusie Murray

7.2.2 - Environmental Consultant

FirstCarbon Solutions (FCS)

Project Director Mary Bean

Project Manager..... Janna Waligorski

Noise Specialist Phil Ault

Air Quality Scientist..... Kimber Johnson

Senior Biologist Kevin Derby

Biologist..... Robert Carroll

Biologist..... Alec Villanueva

Cultural Resources Specialist Dana DePietro

Environmental Analyst Spencer Pignotti

Technical Editor Susie Harris

Word Processor Melissa Ramirez

Graphics Karlee McCracken

Reprographics Octavio Perez

7.2.3 - Transportation Consultants

W-Trans

President..... Dalene J. Whitlock
Principal..... Zack Matley
Assistant Planner Shannon Baker

Questa Engineering Corp.

Principal..... Jeffery H. Peters

7.2.4 - Cultural Resources Consultant

Institute for Canine Forensics (ICF)

Director..... Dana Timbrook

7.2.5 - Hazardous Materials Consultant

Environmental Assessment Specialists, Inc. (EAS)

President..... Gavin Leaver
Researcher Jeff Randle

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