

**DRAFT**

**Baumgardner Ranch Development Project  
Initial Study/Mitigated Negative Declaration  
City of Cloverdale, Sonoma County, California**

Prepared for:

**City of Cloverdale**

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## Table of Contents

<b>Acronyms and Abbreviations .....</b>	<b>vii</b>
<b>Section 1: Introduction .....</b>	<b>1</b>
1.1 - Project Location.....	1
1.2 - Environmental Setting .....	1
1.3 - Project Description .....	13
1.3.1 - Demolition and Removal .....	13
1.3.2 - Land Uses .....	13
1.3.3 - Proposed Land Use Designations and Zoning .....	19
1.4 - Required Discretionary Approvals .....	19
1.5 - Intended Uses of this Document.....	20
<b>Section 2: Environmental Checklist and Environmental Evaluation .....</b>	<b>23</b>
1. Aesthetics .....	24
2. Agriculture and Forestry Resources .....	29
3. Air Quality.....	33
4. Biological Resources .....	52
5. Cultural Resources and Tribal Cultural Resources .....	62
6. Energy.....	67
7. Geology and Soils .....	73
8. Greenhouse Gas Emissions .....	79
9. Hazards and Hazardous Materials .....	87
10. Hydrology and Water Quality .....	95
11. Land Use and Planning .....	108
12. Mineral Resources .....	113
13. Noise.....	115
14. Population and Housing .....	123
15. Public Services .....	126
16. Recreation .....	129
17. Transportation .....	131
18. Utilities and Service Systems .....	153
19. Wildfire .....	159
20. Mandatory Findings of Significance .....	162
<b>Section 3: List of Preparers.....</b>	<b>165</b>
 <b>Appendix A: Air Quality and Greenhouse Gas Emissions Supporting Information</b>	
A.1 - CalEEMod Output	
A.2 - Construction Health Risk Assessment	
 <b>Appendix B: Biological Resources Supporting Information</b>	
B.1 - Biological Resources Evaluation	
B.2 - CNDDDB Results	
B.3 - CNPS Inventory Results	
B.4 - USDA Soil Map of the Project Site	
B.5 - Cloverdale Oak Tree Report	
B.6 - Tree Disposition Map	
 <b>Appendix C: Cultural Resources Supporting Information</b>	

- C.1 - Phase I Cultural Resources Survey
- C.2 - SHPO Concurrence Letter
- C.3 - NAHC SLF Search Results
- C.4 - Tribal Correspondence

#### **Appendix D: Energy Supporting Information**

#### **Appendix E: Geology and Soils Supporting Information**

- E.1 - Geotechnical Report
- E.2 - Paleontological Records Search
- E.3 - Sonoma County Hazard Mitigation Plan, Figure 8.1

#### **Appendix F: Hazards and Hazardous Materials Supporting Information**

- F.1 - Phase I Environmental Site Assessment
- F.2 - Phase II Soil Sampling Report

#### **Appendix G: Hydrology and Water Quality Supporting Information**

- G.1 - Storm Drain Conveyance Study
- G.2 - Storm Drain Conveyance Exhibit

#### **Appendix H: Noise Supporting Information**

- H.1 - Noise Measurement Survey
- H.2 - Federal Highway Administration Noise Level Analysis

#### **Appendix I: Traffic Impact Study**

- I.1 - Traffic Impact Study
- I.2 - Addendum to the Traffic Impact Study

#### **Appendix J: Utilities Supporting Information**

### **List of Tables**

Table 1: Development Summary .....	13
Table 2: Project Structure Summary .....	14
Table 3: Project Parking Summary .....	18
Table 4: Thresholds of Significance .....	35
Table 5: Conceptual Construction Schedule .....	37
Table 6: Annual Construction Emissions (Unmitigated) .....	39
Table 7: Construction Emissions (Unmitigated Average Daily Rate) .....	40
Table 8: Daily Operational Emissions (Unmitigated) .....	41
Table 9: Annual Operational Emissions (Unmitigated) .....	41
Table 10: Project Diesel Particulate Matter Construction Emissions .....	43
Table 11: Exposure Assumptions for Cancer Risk for Scenario 1 .....	44
Table 12: Maximum Impacted Sensitive Receptor in Each Scenario Analyzed .....	45
Table 13: Estimated Health Risks and Hazards during Project Construction—Unmitigated .....	46

Table 14: Estimated Health Risks and Hazards during Project Construction—Mitigated.....	47
Table 15: Estimated Construction-Related Greenhouse Gas Emissions (Unmitigated).....	81
Table 16: Unmitigated Operational Greenhouse Gas Emissions (2022).....	82
Table 17: Consistency with SB 32 2017 Scoping Plan Update .....	84
Table 18: Traffic Noise Model Results Summary .....	111
Table 19: Traffic Noise Increase Summary.....	120
Table 20: Collision Rates at the Study Intersections.....	135
Table 21: Bicycle Facility Summary .....	139
Table 22: Trip Generation Summary .....	140
Table 23: Existing Plus Project Peak-hour Intersection Level of Service.....	140
Table 24: Future and Future Plus Project Peak-hour Intersection Levels of Service .....	142
Table 25: 2015 Urban Water Management Plan Update Planning Assumptions.....	154
Table 26: Landfill Facility Detail .....	155

## List of Exhibits

Exhibit 1: Regional Location Map .....	3
Exhibit 2: Local Vicinity Map.....	5
Exhibit 3: Project Site Photos.....	7
Exhibit 4: Existing Cloverdale General Plan Land Use Designations.....	9
Exhibit 5: Existing Sonoma County Zoning Designations.....	11
Exhibit 6: Project Site Plan.....	15
Exhibit 7: General Plan Amendment Map .....	21
Exhibit 8: Biological Resources .....	55
Exhibit 9a: Parcel A Proposed Stormwater Facilities .....	97
Exhibit 9b: Parcel A Proposed Stormwater Facilities .....	99
Exhibit 9c: Parcel B Proposed Stormwater Facilities .....	101
Exhibit 9d: Parcel C Proposed Stormwater Facilities .....	103
Exhibit 10: Project Study Area and Existing Lane Configurations.....	133
Exhibit 11: Existing Traffic Volumes .....	137
Exhibit 12: Project Traffic Volumes .....	143
Exhibit 13: Future Traffic Volumes.....	145

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## ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg/m <sup>3</sup>	micrograms per cubic meter
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ADA	Americans with Disabilities Act
ADT	average daily traffic
AEP	Association of Environmental Professionals
APN	Assessor's Parcel Number
AR	Agricultural Residential
ARB	California Air Resources Board
ASF	age sensitivity factor
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
BTU	British Thermal Unit
c/mve	collisions per million vehicles entering
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CBC	California Building Standards Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CF	Conservation Feature
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
CUSD	Cloverdale Unified School District
CWA	Clean Water Act

**Acronyms and Abbreviations**

dB	decibel
dBA	A-weighted decibel
DBH	diameter at breast height
DBR	daily breathing rate
DPM	diesel particulate matter
du/acre	dwelling unit per acre
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHG	greenhouse gas
GI	General Industrial
HDM	Highway Design Manual
HDR	High Density Residential
IS/MND	Initial Study/Mitigated Negative Declaration
kBTU	kilo-British Thermal Unit
kW	kilowatt
kWh	kilowatt-hour
kWh/year	kilowatt-hour per year
L <sub>dn</sub>	day/night sound level
LDR	Low Density Residential
L <sub>eq</sub>	equivalent sound level
LID	Low Impact Development
L <sub>max</sub>	maximum noise/sound level
L <sub>min</sub>	minimum noise/sound level
LOS	Level of Service
LRA	Local Responsibility Area
LUST	Leaking Underground Storage Tank
M1	Limited Urban Industrial
MBTA	Migratory Bird Treaty Act
MDR	Medium Density Residential
mgd	million gallons per day
MIR	Maximum Impacted Sensitive Receptor
MLD	Most Likely Descendant
MM	Mitigation Measure

mph	miles per hour
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MSL	mean sea level
MT	metric ton
MW	megawatt
NOA	naturally occurring asbestos
NoSoCoAir	Northern Sonoma County Air Pollution Control District
NO <sub>x</sub>	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
OEHHA	California Office of Environmental Health Hazards Assessment
OHP	California Office of Historic Preservation
OPR	Governor's Office of Planning and Research
PG&E	Pacific Gas and Electric
PID	photo ionization detector
PM <sub>10</sub>	particulate matter, including dust, 10 micrometers or less in diameter
PM <sub>2.5</sub>	particulate matter, including dust, 2.5 micrometers or less in diameter
PPV	peak particle velocity
psi	pounds per square-inch
PUD	Planned Unit Development
RCPA	Regional Climate Protection Authority
REL	Reference Exposure Level
RHNA	Regional Housing Needs Assessment
ROG	reactive organic gas
RPS	Renewable Portfolio Standard
RR	Rural Residential
RWQCB	Regional Water Quality Control Board
SCS	Sustainable Communities Strategy
SCT	Sonoma County Transit
SCTA	Sonoma County Transportation Authority
SLCP	Short-lived Climate Pollutant
SLF	Sacred Lands File
SMARA	California Surface Mining and Reclamation Act
SO <sub>2</sub>	sulfur dioxide
SRA	State Responsibility Area
State Water Board	California State Water Resources Control Board
SWITRS	Statewide Integrated Traffic Records System
SWPPP	Storm Water Pollution Prevention Plan

**Acronyms and Abbreviations**

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TAC	toxic air contaminant
TAH	time at home factor
TCR	Tribal Cultural Resource
TIS	Transportation Impact Study
TPZ	Tree Protection Zone
USACE	United States Army Corp of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
UWMP	Urban Water Management Plan
VMT	vehicle miles traveled
VOC	volatile organic compound
WWTP	Wastewater Treatment Plant
ZEV	Zero Emission Vehicle



## SECTION 1: INTRODUCTION

The purpose of this Initial Study/Mitigated Negative Declaration (IS/MND) is to identify any potential environmental impacts from implementation of the Baumgardner Ranch Development Project (project) in the City of Cloverdale, California. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15367, the City of Cloverdale is the Lead Agency in the preparation of this IS/MND and any additional environmental documentation required for the project. The City has discretionary authority over the project. The intended use of this document is to identify potential environmental impacts that would occur from implementation of the project and to provide the basis for input from public agencies, organizations, and interested members of the public.

The remainder of this section provides a brief description of the project location and the characteristics of the project. Section 2 includes an environmental checklist giving an overview of the potential impacts that may result from project implementation.

### 1.1 - Project Location

The project site is located at the southern edge of the City of Cloverdale in Sonoma County, California (Exhibit 1). The project site is bounded by Sandholm Lane and single-family residential homes (north); undeveloped land (west); Kelly Road and undeveloped land (south); and a Payless Storage facility and gas station (east) (Exhibit 2). The project site also includes the portion of Kelly Road (Street A)<sup>1</sup> that extends from the project site to South U.S. 101 (Redwood Highway). The 28.5-acre project site consists of Assessor's Parcel Number (APN) 117-040-053 and -084. Specifically, the project site is located on the Cloverdale, California United States Geological Survey (USGS) 7.5-Minute Topographical Quadrangle, Township 11 North, Range 10 West, Section 30 Mt. Diablo Base and Meridian (Approximately Latitude 38° North 46' 43.63" and Longitude 123° West 0' 43.00").

### 1.2 - Environmental Setting

The project site is located within the southernmost portion of the City of Cloverdale's Urban Growth Boundary. Within the southwest corner of the project site, near the end of Street A, the project site currently contains a single-family residence and various outbuildings, vehicles, and equipment, including large tractor-trailers and storage containers. A barn that is more than 50 years old is located in the northeast corner of the property, also adjacent to Street A. An overhead electrical line runs along Street A and traverses the southwest portion of the site. The southwest third of the project site contains hillside oak woodlands that range up to 500 feet above mean sea level (MSL). The central and eastern portions of the project site contain flat, undeveloped land at 340 feet above MSL with seasonal grasses and little to no trees. This area appears to have been used for agricultural purposes in the past.

<sup>1</sup> There are three Kelly Roads within the project vicinity. One Kelly Road is on the east side of 101. The other two are parallel to one another off of Cloverdale Boulevard. The northern Kelly Road forms the southern boundary of the project site and will be referred to as "Street A" throughout this IS/MND.

There are two drainage features on-site that convey stormwater. An unnamed drainage runs along the eastern boundary of the project site, eventually draining to Icaria Creek. The southeast corner of the unnamed drainage contains an existing 30-foot long and approximately 30-inch diameter (150 square feet) corrugated metal pipe culvert that drains stormwater runoff south of the project site. In addition, a roadside drainage ditch is located along northern boundary of the project site (along the south side of Sandholm Lane) and collects stormwater from Sandholm Lane and the northern portion of the project site. This roadside ditch does not connect or convey stormwater to the unnamed drainage on the eastern portion of the project site.<sup>2</sup>

Areas surrounding the project site consist of a mixture of residential, commercial, and undeveloped lands (Exhibit 3). Across Sandholm Lane to the north are single-family homes and an industrial warehouse building. To the west is undeveloped land composed of oak woodlands and hills. South of the project site across Street A is more undeveloped land that is relatively level. To the east is a personal storage facility, a gas station, and an automobile body and paint shop. The Redwood Highway is located approximately 800 feet to the east.

The project site is directly outside and adjacent to the Cloverdale city limits but within the City's Sphere of Influence and Urban Growth Boundary. The City of Cloverdale General Plan (General Plan) designates the project site as a mixture of Conservation Feature (CF), Low Density Residential (LDR), and General Industrial (GI) (Exhibit 4). The CF designation is located in the western third of the site, covering the oak woodland area. The purpose of the CF designation is to manage and preserve valuable biological, visual, and agricultural resources in the Cloverdale planning area. The LDR designation is in the central portion of the project site, and is intended for single-family development with generally 6,000-square-foot lots and allows for four dwelling units per acre (du/acre). The GI designation is east of Foothill Boulevard, and is intended for light industrial uses that have little environmental effects and is primarily intended for light manufacturing, office space, wineries, lumber mills, and general distribution warehouses.<sup>3</sup>

The County of Sonoma Zoning Code designates the project site as Agricultural and Residential (AR), Rural Residential (RR), and Limited Urban Industrial (M1) (Exhibit 5). The AR designation is intended to provide land for small scale raising crops and farm animals.<sup>4</sup> The RR designation is intended to preserve the rural character of lands while providing for low density residential and limited crop and livestock production as defined in the Sonoma County Zoning Code.<sup>5</sup> The M1 designation is intended to provide for industrial development that is compatible with urban areas.<sup>6</sup>

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<sup>2</sup> Walsh Engineering. Description of Stormwater Conveyance Study for Sandholm Lane and Foothill Boulevard. March 28, 2018.

<sup>3</sup> City of Cloverdale. General Plan. Page 32.

<sup>4</sup> Sonoma County Municipal Code. Website: [https://library.municode.com/ca/sonoma\\_county/codes/code\\_of\\_ordinances?nodeId=CH26SOCOZORE\\_ART16ARAGREDI](https://library.municode.com/ca/sonoma_county/codes/code_of_ordinances?nodeId=CH26SOCOZORE_ART16ARAGREDI). Accessed May 6, 2019.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.



Source: Census 2000 Data, The CaSIL.

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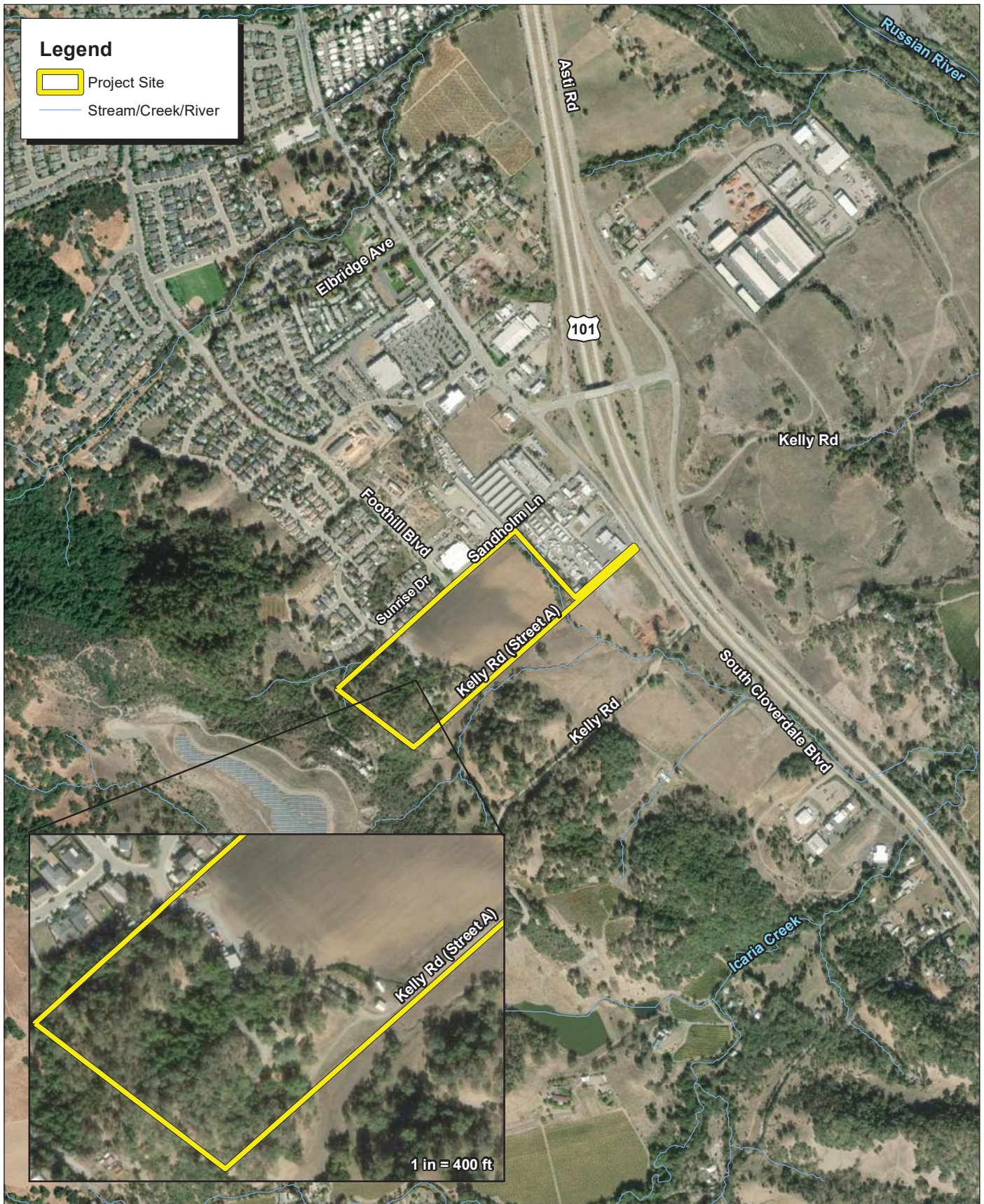
## Exhibit 1 Regional Location Map

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CITY OF CLOVERDALE  
BAUMGARDNER RANCH DEVELOPMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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Source: ESRI Aerial Imagery.

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## Exhibit 2 Local Vicinity Map

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View 1 - Looking west across the project site from Kelly Road toward Sunrise Drive.



View 2 - Looking north across the project site from Kelly Road toward Sandholm Lane.



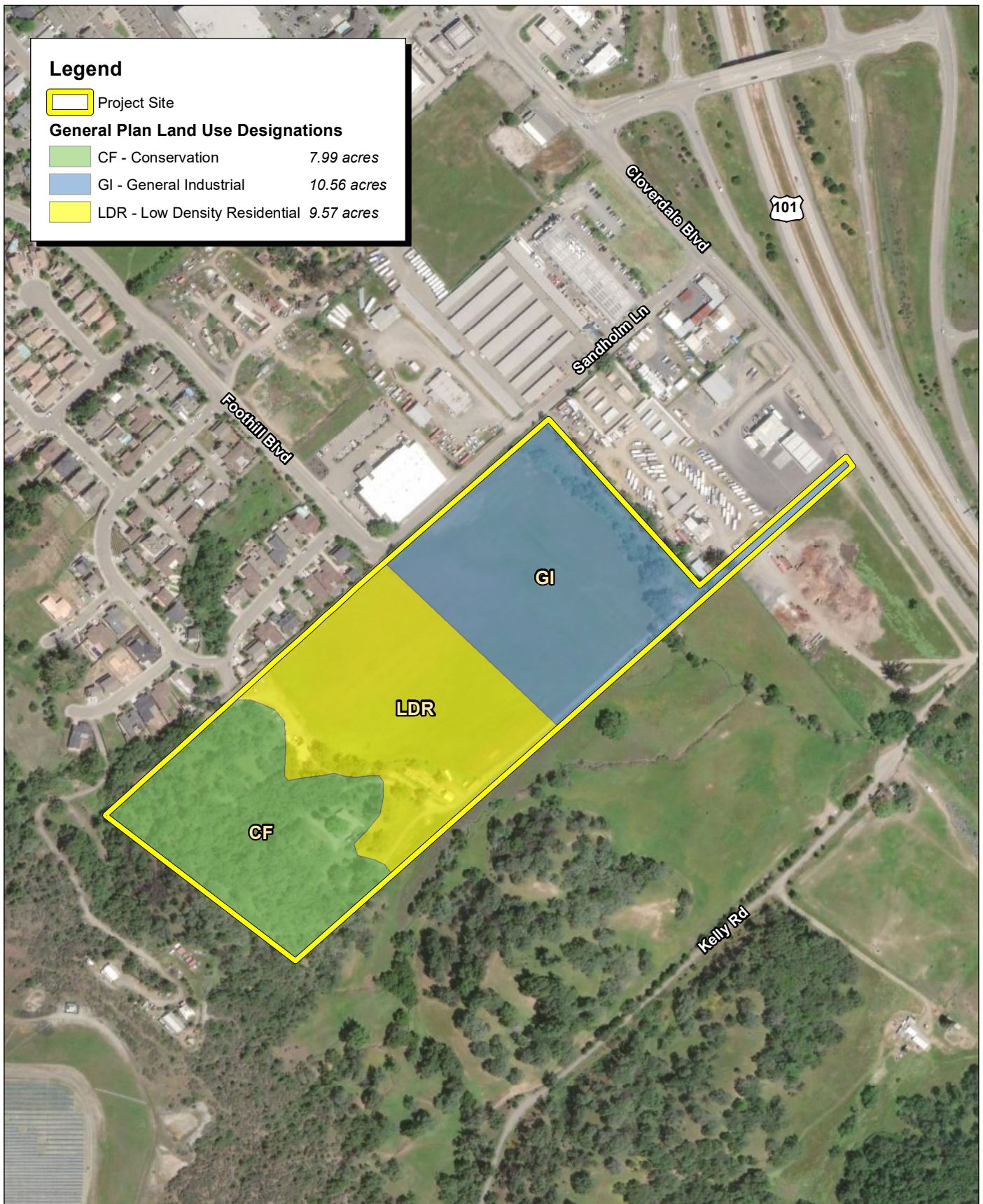
View 3 - Looking northeast across the project site toward the unnamed drainage.



View 4 - Looking east from Kelly Road toward the undeveloped land south of the project site.

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Source: ESRI Aerial Imagery. City of Cloverdale General Plan Land Use.

Exhibit 4

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Existing Cloverdale  
General Plan Land Use Designations

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Source: ESRI Aerial Imagery. County of Sonoma Zoning.

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## Exhibit 5 Existing Sonoma County Zoning Designations

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INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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## 1.3 - Project Description

The project is being proposed as a “workforce village,” a concept that would provide low income, median income, and market rate housing for all segments of the income spectrum. The project would provide an estimated seven jobs related to management of the properties and leasing office.

### 1.3.1 - Demolition and Removal

The project would remove the existing barn, vehicles, equipment, and associated outbuildings but the existing single-family home would remain. In total, 3,360 gross square feet of buildings would be demolished. The existing electrical poles and the on-site propane tank would also be removed. In total, 31 trees would be removed, including 12 oak trees measuring 24-inches in diameter or greater.<sup>7</sup> The project would remove the existing metal pipe culvert and replace it with a new culvert in the unnamed drainage.

### 1.3.2 - Land Uses

The project applicant is proposing to construct a total of 304 housing units and related infrastructure on approximately 20.3 acres while preserving 8.52 acres of privately maintained open space on the 28.5-acre project site (Exhibit 6). The project would include a 25-foot setback from top of bank from the unnamed drainage along the eastern boundary of the site. A 10-foot wide publicly accessible pedestrian path and associated fencing would be constructed along the setback of the unnamed drainage. The project would also preserve hillside areas above the 400-foot elevation on the western portion of the project site as privately maintained open space. This open space would not contain trails or any recreational facilities. The project components are summarized in Table 1:

**Table 1: Development Summary**

Parcel	Gross Acreage (includes street dedication area)	Development	Open Space/Conservation Area <sup>1</sup> (acres)
A	9.37 acres	79 single-family residences	0
B	4.95 acres	59 row house units and 1 community clubhouse	0.77
C	5.89 acres	166 apartment units and 1 community clubhouse	0.96
D	1.50 acres	No development	0
E	6.79	No development	6.79
<b>Total</b>	<b>28.5 acres</b>	<b>304 residential units and 2 clubhouses</b>	<b>Approximately 8.52</b>
Notes: <sup>1</sup> The numbers provided are approximate. Sources: Walsh Engineering, 2019.			

Table 2 summarizes the on-site residential development and associated infrastructure.

<sup>7</sup> Greeley, Kay J. 2019. Oak Tree Report. April.

**Table 2: Project Structure Summary**

Project Component	Unit Type/Size	Total Units	Gross Square Footage (Includes garages and all floor levels)
Single-Family Homes	Floor Plan A: 2-3-bedroom	79	1,488 per unit
	Floor Plan B: 3-bedrooms		1,813 per unit
	Floor Plan C: 4-bedrooms		1,943 per unit
	Floor Plan D: 4-bedrooms		2,187 per unit
Row Houses and Community Building	Rowhouse E: 2-bedrooms	59	1,727 per unit
	Rowhouse F: 3-bedrooms		1,865 per unit
	Rowhouse G: 4-bedrooms		2,032 per unit
	Rowhouse H: 2-bedrooms		1,540 per unit
	Rowhouse J: 3-bedrooms		1,874 per unit
	Rowhouse K: 3-bedrooms		2,092 per unit
	Community Building		1,600 square feet
Apartment Buildings and Community Building	Building A	166	75,536
	Building B (includes Community Building)		50,276
Parking	Attached Garage	278	—
	On-site street/surface Parking	298	
Open Space	Acres	—	8.52 acres

## Housing

### Parcel A

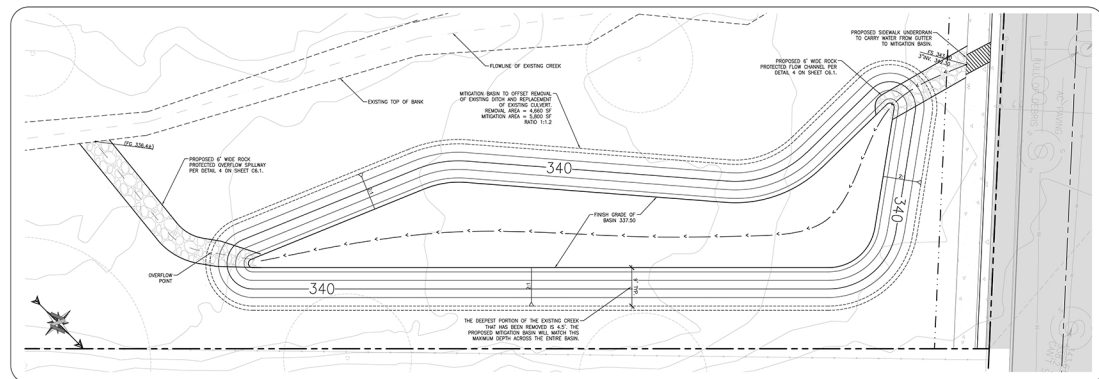
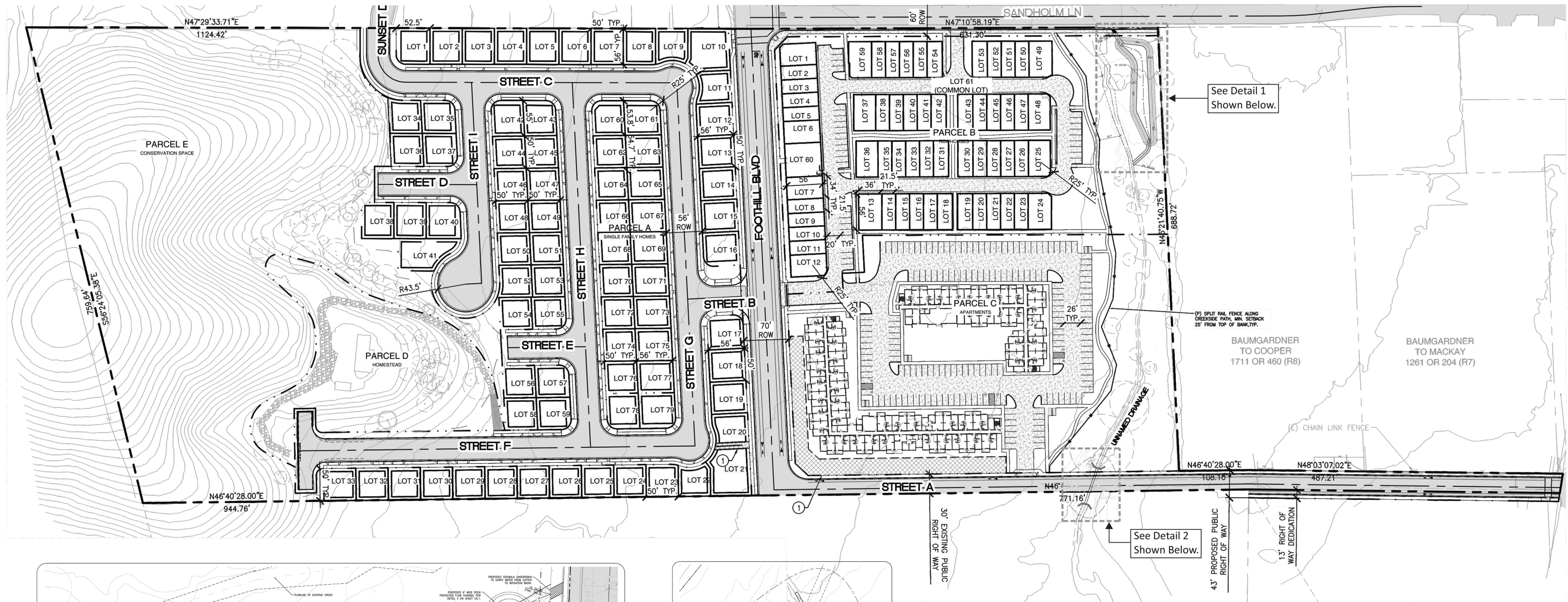
This parcel is located in the central portion of the project site, and includes the area that would be developed with single-family homes. On this parcel, the project would create 79 lots for single-family homes, composed of a mix of four different plan sets as shown in Table 2. The lots on this parcel will be part of the subdivision and will be their own legal lots. The buildings would total 93,770 square feet (building coverage area) and 161,305 square feet (gross).

This parcel would set aside 3.87 acres for internal street dedication and the remaining acreage would be developed with the single-family homes. Each home would include a covered 2-car garage.

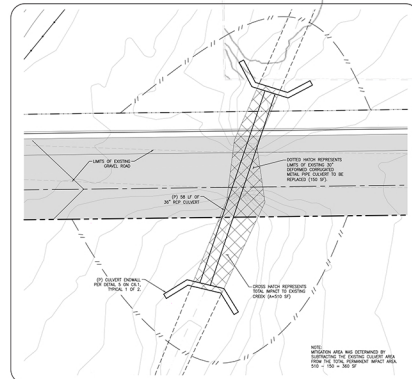
### Parcel B

This parcel is located in the northeastern portion of the project site adjacent to Sandholm Lane. This parcel would include 59 row houses, which would be subdivided into individual lots for each row house and a community clubhouse. The buildings would total 67,116 square feet (building coverage area) and 107,260 square feet (gross). The project would preserve 0.77-acre along the unnamed drainage as open space and 0.84-acre of the parcel would be set aside for internal street dedication. A 10-foot wide publicly accessible pedestrian path and associated fencing would be constructed along the setback of the unnamed drainage.

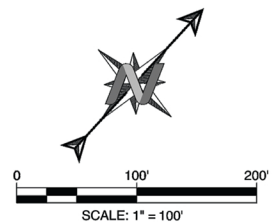




Detail 1: Mitigation Basin



Detail 2: Proposed Culvert



Source: WALSH Engineering, December 9, 2019.

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## Exhibit 6 Project Site Plan

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### **Parcel C**

This parcel is located on the eastern portion of the project site and adjacent to Street A. On this parcel, the project would include 166 apartment units and a community clubhouse. The buildings total 42,044 square feet (building square coverage) and 125,812 square feet (gross). The project would preserve 0.96-acre along the unnamed drainage as open space and 10,000-square-foot centrally located open space area in the middle of the apartment development.<sup>8</sup>In addition, 1.32 acres of the parcel would be set aside for internal street dedication.

### **Parcel D**

This parcel would be located on the southwestern portion of the project site. This area contains the existing single-family home and associated woodland area. This parcel would not be developed as part of this project.

### **Parcel E**

This parcel is located in the western portion of the project site and encompasses the existing oak woodland area. This area would remain as privately maintained open space that would not be used for recreational purposes and would not be publicly accessible.

### **California Senate Bill 1818**

California Senate Bill (SB) 1818, Chapter 928, provides developers with a density bonus and other incentives for constructing lower income housing units within a development provided the developer meets certain requirements, as enumerated in Section 65915(b) of the Government Code:

- 65915 (b) A city, county, or city and county shall grant a density bonus and incentives or concessions described in subdivision (d) when the applicant for the housing development seeks and agrees to construct at least any one of the following:
- (1) **Ten percent of the total units of a housing development for lower income households, as defined in Section 50079.5 of the Health and Safety Code. [emphasis added]**
  - (2) Five percent of the total units of a housing development for very low income households, as defined in Section 50105 of the Health and Safety Code.
  - (3) A senior citizen housing development as defined in Sections 51.3 and 51.12 of the Civil Code.
  - (4) Ten percent of the total dwelling units in a condominium project as defined in subdivision (f) of, or in a planned development as defined in subdivision (k) of, Section 1351 of the Civil Code, for persons and families of moderate income, as defined in Section 50093 of the Health and Safety Code.

The project proposes to make 30 percent of its housing units affordable to low income families—in accordance with item (1) above—and is therefore eligible for the maximum density increase (35 percent) as well as incentives, concessions, and reduced parking allowed under Government Code

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<sup>8</sup> The 10,000 square foot open space area is included in the 0.96 acres.

Section 65915. A total of 92 apartment units will be deed restricted to residents earning 60 percent of area median income or below.

### Circulation

As a part of the project, Foothill Boulevard would be extended from its current terminus at Sandholm Lane, continuing through the project site to a new connection at Street A. Street A would be improved to a paved, two lane road from South Redwood Highway to the new intersection with Foothill Boulevard. Access to the project site would be provided via two driveways off the Foothill Boulevard extension (one to the east and one to the west), one driveway off Sandholm Lane, and another driveway off Street A. Residential roads and driveways would be constructed on Parcels A, B, and C to serve the residential units. Streets A, B, C, D, E, F, G, and H as well as Foothill Boulevard and Sunset Drive will be public roadways. The internal roadways for the row houses (Parcel B) and the apartments (Parcel C) would be private (Exhibit 6).

### Parking

The project would provide a total of 576 parking spaces as described in Table 3.

**Table 3: Project Parking Summary**

Parcel	Type of Parking	Amount
Parcel A	Covered garage spaces	158
	On-street parking spaces	79
Parcel B	Attached garage spaces	120
	Off-street shared parking	35
Parcel C	Off-street shared parking	184
Parcel D	—	0
Parcel E	N/A	0
<b>Total</b>		<b>576</b>

Parcel A would provide 237 parking spaces including a 2-car garage at each of the 79 single-family homes, for a total of 158 covered parking spaces. In addition, Parcel A would include one on-street parking space per unit for an additional 79 spaces. Parcel B would provide 155 parking spaces. Parcel B would include an attached garage for each of the 60 units within the row houses. These garages would provide two covered parking spaces for a total of 120 covered spaces. In addition, Parcel B would include 35 off-street shared parking spaces. Parcel C would provide 184 off-street shared parking spaces for use by apartment unit residents. In total, the project would provide 576 parking spaces.

### Open Space and Recreational Facilities

The project would preserve a total of 8.52 acres of open space including preservation of 6.79 acres of existing oak woodland on Parcel E of the project site. Neither Parcel D nor Parcel E would provide publicly accessible open space. The project would also include two community clubhouses for

project residents, and a publicly accessible pedestrian path along the setback from the unnamed drainage in the eastern portion of the site.

## Utilities

Water for all parcels would be provided via an existing 12-inch water main within Sandholm Lane.

Parcel A's wastewater infrastructure would connect to an existing wastewater main within Foothill Boulevard. Wastewater infrastructure for Parcels B and C would connect with an existing wastewater main in Sandholm Lane.

The project includes the construction of an on-site storm drainage system consisting of bioswales, inlets, basins to detain waters on-site and provide natural filtration and pre-treatment. Waters from Sandholm Lane would also be collected via the existing gutter and conveyed to a proposed mitigation basin to be created in the northeastern corner of the site (Exhibit 6). The project would also replace an existing 30-inch metal pipe culvert that crosses under Street A in the southeastern portion of the site. This new 36-inch culvert would continue to convey water from the unnamed drainage southward to Icaria Creek, a seasonal creek that flows to the Russian River.

Electricity and natural gas connections would be coordinated with the utility provider. Residents of Cloverdale receive their electricity and natural gas service from Pacific Gas and Electric (PG&E).<sup>9</sup> With respect to electricity, Sonoma Clean Power provides the electric generation service while PG&E delivers electricity through the existing grid.<sup>10</sup>

The project is proposing to include solar panels on the row houses and multi-family apartments as a renewable energy source with a goal to generate approximately 500,000 kilowatt-hour/year (kWh/year). The single-family homes may include solar panels depending on available financing at the time of construction.

### 1.3.3 - Proposed Land Use Designations and Zoning

The project site is designated CF, LDR, and GI by the General Plan. Because the project site is currently located outside of the city limits, the project includes annexation into the City of Cloverdale, a General Plan Amendment to re-designate the project site to High Density Residential (HDR) (Exhibit 7), and a Planned Unit Development (PUD) permit in order to construct the proposed 304 housing units and associated development.

## 1.4 - Required Discretionary Approvals

- PUD
- Subdivision Map
- Annexation into the City of Cloverdale
- General Plan Amendment to HDR
- Site Plan Design Review

<sup>9</sup> City of Cloverdale. 2008. General Plan Update Draft EIR. Accessed April 30, 2019.

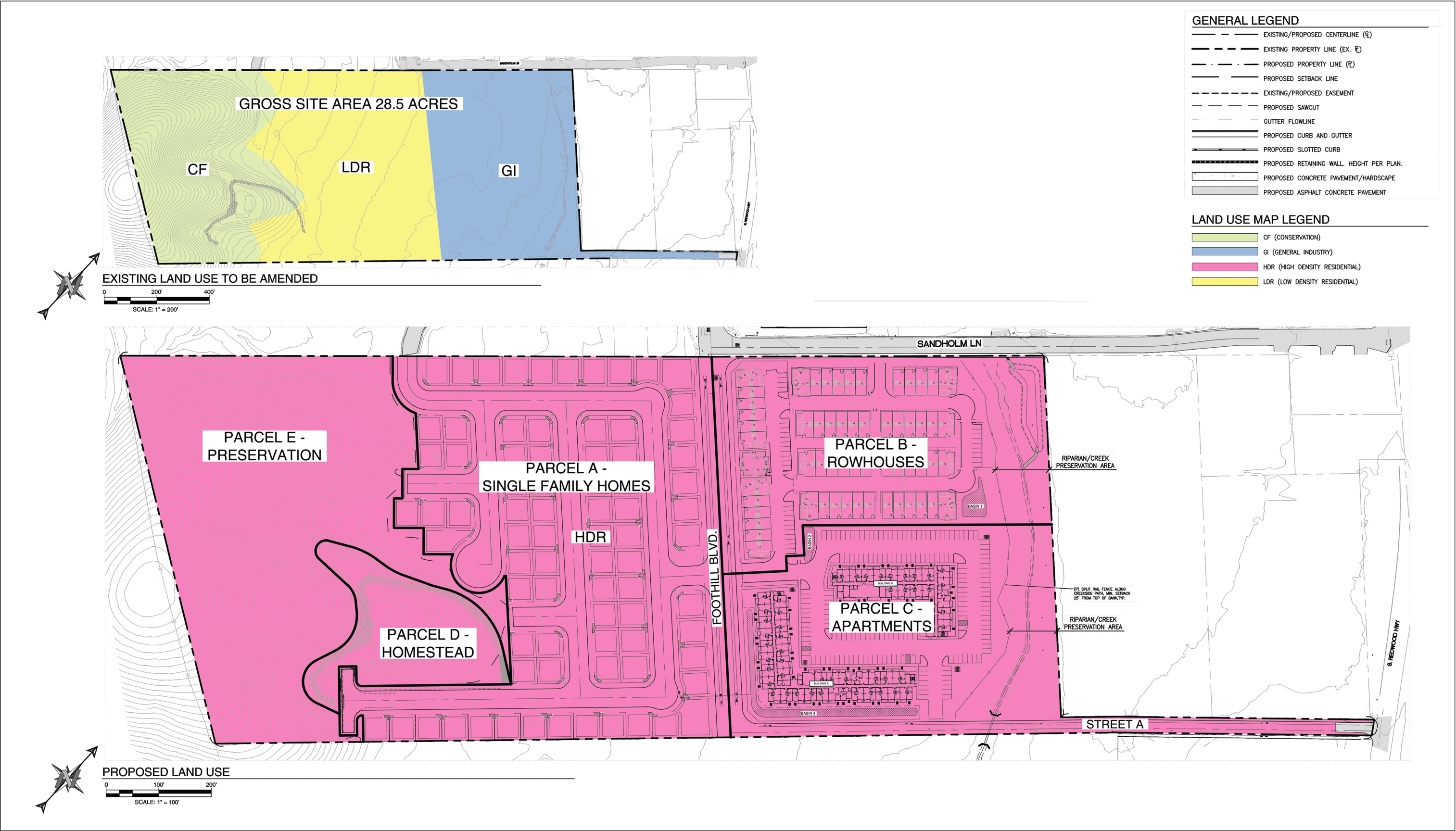
<sup>10</sup> Sonoma Clean Power. 2019. About Us. Website: <https://sonomacleanpower.org/our-vision>. Accessed June 5, 2019.

## 1.5 - Intended Uses of this Document

This IS/MND has been prepared to identify potential environmental impacts that would occur as a result of the project and the mitigation measures required to reduce those impacts to less than significant. 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 IS/MND will be circulated for a minimum of 30 days, during which period comments concerning the analysis contained in the IS/MND should be sent to:

Kevin Thompson  
Assistant City Manager | Community Development Director  
124 North Cloverdale Boulevard  
Cloverdale, CA 95425  
Phone: 707.894.1723  
Email: [kthompson@ci.cloverdale.ca.us](mailto:kthompson@ci.cloverdale.ca.us)





Source: WALSH Engineering, October 30, 2019.

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## SECTION 2: ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Factors Potentially Affected					
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.					
<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry Resources	<input checked="" type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Energy
<input checked="" type="checkbox"/>	Geology/Soils	<input checked="" type="checkbox"/>	Greenhouse Gas Emissions	<input checked="" type="checkbox"/>	Hazards/Hazardous Materials
<input type="checkbox"/>	Hydrology/Water Quality	<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources
<input checked="" type="checkbox"/>	Noise	<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services
<input type="checkbox"/>	Recreation	<input checked="" type="checkbox"/>	Transportation	<input checked="" type="checkbox"/>	Tribal Cultural Resources
<input type="checkbox"/>	Utilities/Services Systems	<input checked="" type="checkbox"/>	Wildfire	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

### Environmental Determination

On the basis of this initial evaluation:

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

Date: 2/3/20

Signed: TLA

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>1. Aesthetics</b> <i>Except as provided in Public Resources Code Section 21099, would the project:</i>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

This section provides a description of existing visual conditions near the project site and an assessment of changes to those conditions that would occur from implementation of the project. Effects of the project on the visual environment are generally defined in terms of the following: a project's physical characteristics and potential visibility, the extent to which the project's presence would change the perceived visual character and quality of the environment where it would be located, and the expected level of sensitivity that the viewing public may have in areas where project facilities would alter existing views.

The aesthetic quality of a community is composed of visual resources, which are those physical features that make up the visible landscape, including land, water, vegetation, and the built environment (e.g., buildings, roadways, and structures).

The City of Cloverdale is located in a small, flat valley running roughly north to south following the Russian River, and surrounded by gently rolling hills covered with oak trees, grassland, and other vegetation. The Redwood Highway provides both northbound and southbound views of the City. Views in the City consist of the Russian River northbound and views southbound consist of Fitch Mountain and the Mayacamas Mountains, which are in prominent view in the background. Views of the surrounding foothills and open space areas, agricultural lands, creeks, and oak woodlands can be seen from a number of public vantage points throughout the City.



The project site is located in a transition area between the urbanized City of Cloverdale to the north and more rural unincorporated Sonoma County lands to the south. The project site is almost entirely undeveloped (except for one single-family dwelling and outbuildings) and includes substantial natural wooded hillside in the western portion of the site and a natural drainage along the eastern boundary. To the north across Sandholm Lane are single-family homes and established urban infrastructure such as roads, stormwater drainage facilities, and lighting. To the south and west is mostly undeveloped land composed of natural woodland and grassland vegetation. East of the project site are more industrial uses, including a gas station, automobile body shop, and storage facility.

## Visual Setting

Views of the site are unobstructed from Sandholm Lane, Sunrise Drive, and Street A. All other public views of the site are largely obstructed or blocked by development and trees.

The General Plan Conservation, Design, and Open Space Element has goals and policies that aim to preserve scenic resources that include natural features such as woodland areas, foothills, and agricultural land. General Plan Exhibit 6-1, Conservation Element Map, designates “prominent ridgeline buffers” and “river/creek buffers” throughout the City of Cloverdale. There are no designated scenic resources on or near the site. The project site is relatively flat and contains foothills above the 400-foot elevation contour on the western portion of the project site.

The City of Cloverdale Urban Lighting Element protects light resources through Goals, Policies, and Programs that aim to preserve nighttime sky and reduce light spillage. General Plan Policy UL 3-5 requires projects to minimize impacts of urban lighting, but provide adequate light for public safety. Policy UL 1-1 ensures new development provide nighttime lighting while requiring fixtures shield light sources so that light is directed downward. Policy UL 1-2 requires projects to minimize light spillage off-site. Policy UL 1-7 requires projects to avoid using reflective building materials.

Would the project:

### a) Have a substantial adverse effect on a scenic vista?

**Less than significant impact.** The General Plan Exhibit 6-1, Conservation Element Map, designates “prominent ridgeline buffers” and “river/creek buffers” throughout the City of Cloverdale. Based on this map, there is a “prominent ridgeline buffer” approximately 2,000 feet to the northwest of the project site that is visible from the project site. The presence of trees and single-family homes adjacent to the north partially obstruct views of this ridgeline. The project would result in partial obstruction of views from Street A and other private vantage points to the south. The project would not result in significant impact because the views are already partially obstructed, and the main ridgeline sightline would be maintained following construction of the project. Therefore, impacts would be less than significant.

**b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?**

**No impact.** There are no California Department of Transportation (Caltrans) designated or “Eligible” State Scenic Highways within or near the City of Cloverdale.<sup>11</sup> The closest officially designated State Scenic Highway is State Route 116 (SR-116) located approximately 20 miles to the south. No impact would occur.

**c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

**Less than significant impact.** Public views of the site are primarily experienced from Sandholm Lane, Sunrise Drive, and Foothill Boulevard. Largely obstructed views of the project site occur from the Redwood Highway. As discussed under Impact 1(b), the project would not significantly impact views from the Redwood Highway. Views of the site from Sandholm Lane, Sunrise Drive, and Foothill Boulevard would consist of proposed structures and fencing; however, all views of ridgelines and woodland hillsides on the project site would be preserved through adherence to the 35-foot roof height limit and project setbacks.

There are no local, State, or regional parks near the site with publicly accessible vantage points of the project site. Therefore, the project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.

The General Plan contains policies to address potential impacts to scenic views from Highway 101. Views of the project site from Highway 101 are largely obstructed by existing development and topography. While higher portions of housing or rooftops may be visible, the proposed housing locations do not obscure views of ridgelines further west of the project site as seen from Highway 101. The project would be consistent with General Plan Goal CDO-2 and Policies CDO 2-2 and 2-4 because it would preserve areas above the 400-foot elevation line as open space. Pursuant to the Cloverdale Municipal Code Section 18.03.150, the project would undergo review to ensure compliance with design guidelines. Compliance with the design guidelines set forth in the Cloverdale Municipal Code would minimize the project’s appearance of uniformity and encourage variety in architectural details and styling. Consistent with the Cloverdale Municipal Code Section 18.10.050, Residential Design Standards, the project includes preservation of the 400-foot elevation line, existing ridgelines and woodland hillsides, and a setback along the unnamed drainage. In addition, consistent with Cloverdale Municipal Code Section 18.09.040 Hillside Protection (g), the project would permanently preserve the hillside area on the western portion of the site as open space. Therefore, the project would not conflict with applicable General Plan or zoning regulations or substantially degrade the existing visual character of the project site and its surroundings. Impacts would be less than significant.

<sup>11</sup> California Department of Transportation (Caltrans). California Scenic Highway Mapping System: Sonoma County. Website: [http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/). Accessed March 25, 2019.

**d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

**Less than significant impact.** Sources of daytime glare include direct beam sunlight and reflections from windows, architectural coatings, glass, and other reflective surfaces. Nighttime illumination and associated glare are generally divided into two sources: stationary and mobile. Stationary sources include structure lighting and decorative landscaping, lighted signs, solar panels, and streetlights. Mobile sources are primarily headlights from motor vehicles.

The project site and areas to the south and west are undeveloped and currently contain few existing buildings or permanent structures that could generate substantial daytime or nighttime lighting or glare. The area to the north of the project site across Sandholm Lane contains single-family homes and existing light and glare from urban infrastructure such as roads, windows, and lighting. To the east of the project site are industrial uses such as a gas station, automobile body shop, and a storage facility with exterior building lighting, signage, and street lighting. New sources of light associated with the project include interior lighting and exterior lighting for the structures and for decorative landscaping. As part of development, the project would construct new private internal streets, an extension of Foothill Boulevard, and improve Street A, which would connect to South Redwood Highway, in order to provide roadway circulation and emergency access, and would include streetlights along these streets for public safety purposes. The project would also provide solar panels on the residential homes. Therefore, the project would create new sources of light and glare compared to existing conditions.

The City would review the project for consistency with General Plan policies and design guidelines intended to reduce daytime glare and nighttime lighting. In addition, during design review, the City would ensure the project's proposed exterior lighting complies with Cloverdale Municipal Code Section 18.09.050, Outdoor Lighting. Section 18.09.050 creates standards for outdoor lighting that minimize light pollution and glare by requiring new development to install lighting that is aimed downward, imposing streetlight height limits, and requiring lighting plans that show location, height, shielding, and output of proposed lighting. Consistency with General Plan policies and Cloverdale Municipal Code regulations would ensure new sources of light and glare would be reduced to the maximum extent practicable.

Project related traffic would increase mobile sources of light due to headlights. However, nighttime automobile headlight lighting impacts would be intermittent and limited to adjacent streets with existing streetlights.

Consistency with all applicable General Plan policies and Cloverdale Municipal Code regulations would ensure stationary lighting impacts are limited to the project site and light spillage would not spill off-site. In addition, City design review would further ensure that all exterior lighting, signage, and streetlights are directed downward and shielded to prevent light spillage. The project would preserve the existing woodland hillside on-site and would not develop above the 400-foot elevation line. As a result, project lighting would not impact ridgelines or woodland hillsides. Because of the project's location adjacent to other urban development, the project would not be adding significant

nighttime lighting or glare in an area with no existing lighting impacts. Therefore, impacts to light and glare would be less than significant.

## **Mitigation Measures**

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>2. Agriculture and Forestry Resources</b> <i>Would the project:</i>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

### Agricultural Resources

The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) was established by the State Legislature in 1982 to assess the location, quality, and quantity of agricultural lands and conversion of these lands over time. The FMMP has established five farmland categories:

- Prime Farmland is farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land must have been used for irrigated agricultural production at some time during the last 4 years before the mapping date and have the ability to store moisture in soil well.
- Farmland of Statewide Importance is similar to Prime Farmland but contains greater slopes and a lesser ability to store soil moisture.

- Unique Farmland is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climate zones in California. This land must still have been cropped some time during 4 years prior to the mapping date.
- Farmland of Local Importance is important to the local agricultural economy as determined by each county's board of supervisors and local advisory committee.
- Grazing Land is land on which the existing vegetation is suited to the grazing livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

The FMMP classifies the project site and its surroundings as "Farmland of Local Importance." There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance located within the vicinity. The project site is not zoned for agricultural uses.

### Forest Resources

The Williamson Act, classified in 1965 as the California Land Conversation Act, allows local governments to enter into contracts with private landowners, offering tax incentives in exchange for an agreement that the land will remain undeveloped or related open space use only for a period of 10 years. There are currently no properties under the Williamson Act within the City of Cloverdale.

CEQA requires the evaluation of forest and timber resources where those resources are present; however, the project site is located within a residential area of Cloverdale, and there is no 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.

Would the project:

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

**No impact.** As described previously, the project site is classified as "Farmland of Local Importance."<sup>12</sup> There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance located within the project area. Therefore, development of the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. No impact would occur.

- b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**No impact.** The project site is designated Agriculture and Residential, Rural Residential, and Limited Urban Industrial, and by the Sonoma County Zoning Code, which indicates that the County anticipates the potential for residential development of this site. There are currently no properties under Williamson contract located on the project site or surrounding area.<sup>13</sup> As such, there would be

<sup>12</sup> California Department of Conservation. 2018. Sonoma County Important Farmland 2016.

<sup>13</sup> California Department of Conservation. Sonoma County Williamson Act FY 2013-2014. Website: [https://www.conservation.ca.gov/dlrp/wa/Pages/stats\\_reports.aspx](https://www.conservation.ca.gov/dlrp/wa/Pages/stats_reports.aspx).

no impacts relating to conflicts with an existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

- c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?**

**No impact.** The project site nor the surrounding area contains forest land,<sup>14</sup> timberland, or timberland zoned Timberland Production and thus the project would not result in the loss of timberland.<sup>15</sup> Therefore, the project would not conflict with a forest zoning designation and no impact would occur.

- d) **Result in the loss of forest land or conversion of forest land to non-forest use?**

**Less than significant impact.** The southwest portion of the project site is designated as CF and contains hillside oak woodlands. According to the General Plan, Conservation, Design, and Open Space Element, Policy CDO 6-2, the City must protect distinctive natural vegetation such as oak woodlands, riparian corridors and mixed evergreen forests by maintaining the natural features as a whole.<sup>16</sup> The project would preserve a total of 8.52 acres of open space including 6.79 acres of existing oak woodland. Because a majority of the existing on-site oak woodland would be preserved, there would be no significant loss of forest land or conversion of forest land to non-forest use as a result of the project, and impacts would be less than significant.

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

**Less than significant impact.** A significant impact would occur if the project would indirectly result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest uses. As described previously, the project site contains oak woodland habitat and land that was previously used for agricultural purposes. The area surrounding the project site is composed of urban development such as a gas station, single-family homes, a storage facility, and undeveloped County land that is zoned Agriculture and Residential District, Limited Urban Industrial District, Rural Residential, Resources and Rural Development, and Scenic Resources Combining District which, similar to the project site, indicates that the County anticipates the potential for residential development.

In addition, the surrounding area to the east and north is already urbanized and there is no designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance located near the project site.<sup>17</sup> As such, development of the project would not induce the conversion of farmland in the surrounding area. There is no designated timberland on the site or in the surrounding area, and as

<sup>14</sup> United States Forest Service. Forest Legacy Interactive Map. Website: <https://www.fs.fed.us/managing-land/private-land/forest-legacy>. Accessed March 8, 2019.

<sup>15</sup> California Department of Forestry and Fire Protection (CAL FIRE). 2012. Forest Practice Geographical Information System. Website: [http://calfire.ca.gov/resource\\_mgt/resource\\_mgt\\_forestpractice\\_gis](http://calfire.ca.gov/resource_mgt/resource_mgt_forestpractice_gis). Accessed March 8, 2019.

<sup>16</sup> City of Cloverdale. 2015. General Plan. January 28. Website: <http://www.cloverdale.net/documentcenter/view/1673>. Accessed March 7, 2019.

<sup>17</sup> California Department of Conservation. 2018. Sonoma County Important Farmland 2016.

described above, the site would retain significant oak woodland habitat with development of the project. The project is consistent with the existing residential development in the area as well as the proposed land use and zoning designations. Therefore, the project would not induce the conversion of timberland or forest land in the surrounding area. Impacts would be less than significant.

## **Mitigation Measures**

None.



Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>3. Air Quality</b> <i>Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.</i> <i>Would the project:</i>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

Air pollutants relevant to the CEQA checklist questions for Air Quality are briefly described below.

- Ozone is a gas that is formed when reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>)—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are conducive to its formation. Health effects can include, but not be limited to irritated respiratory system, reduced lung function, and aggravated chronic lung diseases.
- ROG, or volatile organic compounds (VOCs), are defined as any compound of carbon—excluding carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROG and VOCs, the two terms are often used interchangeably.
- Nitrogen dioxide (NO<sub>2</sub>) forms quickly from NO<sub>x</sub> emissions. Health effects from NO<sub>2</sub> can include the following: 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; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.
- CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when

surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines—unlike ozone—and motor vehicles operating at slow speeds are a primary source of CO in the Sonoma County region, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Potential health effects from CO depends on exposure and can include 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<sub>2</sub>) is a colorless, pungent gas. At levels greater than 0.5 parts per million (ppm), the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO<sub>x</sub>) include SO<sub>2</sub> and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although SO<sub>2</sub> concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because SO<sub>2</sub> is a precursor to sulfate and PM<sub>10</sub>.
- Respirable Particulate Matter (PM<sub>10</sub>) and Fine Particulate Matter (PM<sub>2.5</sub>) consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. Health effects from short-term exposure (hours/days) can include the following: 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. Health effects from long-term exposure can include the following: reduced lung function; chronic bronchitis; changes in lung morphology; or death.
- Toxic Air Contaminants (TACs) refer to a diverse group of air pollutants that can affect human health, but have not had ambient air quality standards established for them. Diesel particulate matter (DPM) is a toxic air contaminant that is emitted from construction equipment and diesel fueled vehicles and trucks. 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.

The project site is located in the North Coast Air Basin, within the jurisdiction of the Northern Sonoma County Air Pollution Control District (NoSoCoAir). Where available, the significance criteria established or recommended by NoSoCoAir were used to make determinations related to the air quality CEQA checklist impact questions. The NoSoCoAir has not adopted standards of significance for operational activities and instead suggests the use of the Bay Area Air Quality Management District (BAAQMD) thresholds and mitigation measures. In accordance with CEQA Guidelines Section 15064.7 (Thresholds of Significance), the City exercises its own discretion to use the significance thresholds in the BAAQMD CEQA thresholds based on substantial evidence contained in BAAQMD's

record for adoption of the thresholds (which is relied on and incorporated herein). Accordingly, the assessment of the project's air quality impacts uses the thresholds and methodologies from BAAQMD's May 2017 CEQA Air Quality Guidelines to determine the potential impacts of the project on the existing environment.<sup>18</sup> The significance thresholds used in this analysis are based on BAAQMD standards and as set forth in Table 4 below. In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

**Table 4: Thresholds of Significance**

Pollutant	Construction Thresholds Average Daily Emissions	Operational Thresholds	
		Average Daily Emissions	Annual Average Emissions
Criteria Air Pollutants			
VOC	54 pounds/day	54 pounds/day	10 tons/year
NO <sub>x</sub>	54 pounds/day	54 pounds/day	10 tons/year
PM <sub>10</sub>	82 pounds/day	82 pounds/day	15 tons/year
PM <sub>2.5</sub>	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 <sub>2.5</sub>	0.3 µg/m <sup>3</sup>	0.3 µg/m <sup>3</sup>	
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 <sub>2.5</sub>	0.8 µg/m <sup>3</sup>		
Notes: VOC = volatile organic compounds NO <sub>x</sub> = nitrogen oxides PM <sub>10</sub> = coarse particulate matter or particulates with an aerodynamic diameter of 10 µm or less PM <sub>2.5</sub> = 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: <a href="http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en">http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en</a> . Accessed June 1, 2019.			

<sup>18</sup> 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](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). Accessed June 1, 2019.

Would the project:

**a) Conflict with or obstruct implementation of the applicable air quality plan?**

**No impact.** The project is located in the North Coast Air Basin (Air Basin), where air quality is regulated by the NoSoCoAir. The Air Basin is in attainment for all federal and State ambient air quality standards. Therefore, NoSoCoAir is not required to prepare or implement an air quality plan. There is no applicable air quality plan. As such, no impacts would occur.

**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?**

**Less than significant impact with mitigation incorporated.** This impact is related to the cumulative effect of a project's regional criteria pollutant emissions. As described above, the region is currently in attainment for all federal and State ambient air quality standards. By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The attainment status of regional pollutants is a result of past and present development within the Air Basin, and this potential regional impact is a cumulative impact. In other words, new development projects (such as the 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 considerable when taken in combination with past, present, and future development projects.

The cumulative analysis focuses on whether a specific project would result in cumulatively considerable 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 considerable. 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. Projects that generate emissions below the BAAQMD significance thresholds would be considered consistent with regional air quality planning efforts would not generate cumulatively considerable emissions.

The project's regional construction and operational emissions, which include both on- and off-site emissions, are evaluated separately below. Construction and operational emissions from the project were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2.<sup>19</sup> A detailed description of the assumptions used to estimate emissions and the complete CalEEMod output files are contained in Appendix A.

### **Construction Emissions**

During construction, fugitive dust 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. However, the potential for impacts from fugitive dust exists unless control measures are

<sup>19</sup> California Emissions Estimator Model (CalEEMod). Version 2016.3.2. Website: <http://caleemod.com/>. Accessed May 20, 2019.

implemented to reduce the emissions from this source. Exhaust emissions would also be generated from the operation of the off-road construction equipment and vehicles traveling to and from the project site.

### **Construction Fugitive Dust**

The BAAQMD does not recommend a numerical threshold for fugitive dust particulate matter emissions. Instead, the BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented. If all appropriate emissions control measures are implemented for a project as recommended by the BAAQMD, then fugitive dust emissions during construction are not considered significant. During construction activities, the following air pollution control measures shall be implemented as outlined in Mitigation Measure (MM) AIR-1. With incorporation of this condition, short-term construction impacts associated with the generation of fugitive dust would be less than significant.

### **Construction Air Pollutant Emissions: ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>**

As previously discussed, CalEEMod version 2016.3.2 was used to estimate the project's construction emissions. CalEEMod provides a consistent platform for estimating construction and operational emissions from a wide variety of land use projects and is the model recommended by the BAAQMD for estimating project emissions. Estimated construction emissions are compared with the applicable thresholds of significance established by the BAAQMD to assess ROG, NO<sub>x</sub>, exhaust PM<sub>10</sub>, and exhaust PM<sub>2.5</sub> construction emissions to determine significance for this criterion.

For the purpose of this analysis, construction of the project was assumed to begin in March 2020 and conclude in May 2026. Construction and operations of the project are anticipated to overlap. Therefore, construction emissions were modeled based on an applicant-provided conceptual phasing schedule. If the construction schedule moves to later years, construction emissions would likely decrease because of improvements in technology and more stringent regulatory requirements. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required by CEQA Guidelines. The preliminary construction schedule is provided in Table 5.

**Table 5: Conceptual Construction Schedule**

Construction Activity	Conceptual Construction Schedule		Working Days	Working Days
	Start Date	End Date		
Site Work for the Entire Project Site				
Demolition	3/11/2020	4/20/2020	5	29
Site Preparation	4/21/2020	5/20/2020	5	22
Grading	5/21/2020	7/20/2020	5	43
Off-site Road Improvements				
Site Preparation	4/20/2020	4/20/2020	5	1
Grading	4/21/2020	4/22/2020	5	2



**Table 5 (cont.): Conceptual Construction Schedule**

Construction Activity	Conceptual Construction Schedule		Working Days	Working Days
	Start Date	End Date		
Paving	4/23/2020	4/29/2020	5	5
<b>Parcel A Phase 1</b>				
Building Construction	7/20/2020	1/20/2022	5	394
Paving	1/20/2022	3/20/2022	5	42
Architectural Coating	3/20/2022	5/20/2022	5	45
<b>Parcel A Phase 2</b>				
Building Construction	7/20/2021	1/23/2023	5	395
Paving	1/20/2023	3/20/2023	5	42
Architectural Coating	3/20/2023	5/20/2023	5	45
<b>Parcel A Phase 3</b>				
Building Construction	7/20/2022	1/20/2024	5	393
Paving	1/20/2024	3/20/2024	5	43
Architectural Coating	3/20/2024	5/20/2024	5	44
<b>Parcel A Phase 4</b>				
Building Construction	7/20/2023	1/20/2025	5	393
Paving	1/20/2025	3/20/2025	5	44
Architectural Coating	3/20/2025	5/20/2025	5	44
<b>Parcel A Phase 5</b>				
Building Construction	7/20/2024	1/20/2026	5	392
Paving	1/20/2026	3/20/2026	5	44
Architectural Coating	3/20/2026	5/20/2026	5	44
<b>Parcel B Phase 1</b>				
Building Construction	7/20/2020	1/20/2022	5	394
Paving	1/20/2022	3/20/2022	5	42
Architectural Coating	3/20/2022	5/20/2022	5	45
<b>Parcel B Phase 2</b>				
Building Construction	7/20/2021	1/20/2023	5	394
Paving	1/20/2023	3/20/2023	5	42
Architectural Coating	3/20/2023	5/20/2023	5	45
<b>Parcel C Phase 3</b>				
Building Construction	7/20/2022	1/20/2024	5	393

**Table 5 (cont.): Conceptual Construction Schedule**

Construction Activity	Conceptual Construction Schedule		Working Days	Working Days
	Start Date	End Date		
Paving	1/20/2024	3/20/2024	5	43
Architectural Coating	3/20/2024	5/20/2024	5	44
<b>Parcel C Phase 4</b>				
Building Construction	7/20/2023	1/20/2025	5	220
Paving	1/20/2025	3/20/2025	5	44
Architectural Coating	3/20/2025	5/20/2025	5	44
Source: Appendix A.				

The calculations of pollutant emissions from the construction equipment account for the type of equipment, horsepower and load factors of the equipment, along with the duration of use. Annual exhaust emissions are shown in Table 6. Average daily construction emissions are compared with the significance thresholds in Table 7.

**Table 6: Annual Construction Emissions (Unmitigated)**

Construction Year	Tons/Year			
	ROG	NO <sub>x</sub>	PM <sub>10</sub> (Exhaust)	PM <sub>2.5</sub> (Exhaust)
2020 Total Construction Emissions	0.23	2.22	0.10	0.09
2021 Total Construction Emissions	0.17	1.35	0.04	0.04
2022 Total Construction Emissions	1.87	1.78	0.06	0.06
2023 Total Construction Emissions	1.26	1.72	0.05	0.05
2024 Total Construction Emissions	1.96	1.44	0.04	0.04
2025 Total Construction Emissions	1.47	0.74	0.02	0.02
2026 Total Construction Emissions	0.52	0.21	0.01	0.01
<b>Total Construction Emissions</b>	<b>7.48</b>	<b>9.46</b>	<b>0.33</b>	<b>0.31</b>
Notes: ROG = reactive organic gases      NO <sub>x</sub> = oxides of nitrogen PM <sub>10</sub> = particulate matter 10 microns in diameter PM <sub>2.5</sub> = particulate matter 2.5 microns in diameter Calculations use unrounded numbers. Source: CalEEMod Output (see Appendix A).				

**Table 7: Construction Emissions (Unmitigated Average Daily Rate)**

Parameter	Air Pollutants			
	ROG	NO <sub>x</sub>	PM <sub>10</sub> (Exhaust)	PM <sub>2.5</sub> (Exhaust)
Total Emissions (tons/year)	7.48	9.46	0.33	0.31
Total Emissions (lbs/year)	14,963	18,921	665	622
Average Daily Emissions (lbs/day) <sup>1</sup>	9.26	11.71	0.41	0.38
<b>Significance Threshold (lbs/day)</b>	<b>54</b>	<b>54</b>	<b>82</b>	<b>54</b>
Exceeds Significance Threshold?	No	No	No	No
Notes: <sup>1</sup> Calculated by dividing the total number of pounds by the total 1,616 working days of construction for the duration of construction (2020-2026). Calculations use unrounded totals. lbs = pounds    ROG = reactive organic gases    NO <sub>x</sub> = oxides of nitrogen PM <sub>10</sub> = particulate matter 10 microns in diameter PM <sub>2.5</sub> = particulate matter 2.5 microns in diameter Source of thresholds: BAAQMD 2017 Source of emissions: CalEEMod Output (see Appendix A).				

As shown in Table 7, the construction emissions from all construction activities are below the recommended thresholds of significance; therefore, the construction of the project would have less than significant impact with regard to emissions of ROG, NO<sub>x</sub>, exhaust PM<sub>10</sub>, and exhaust PM<sub>2.5</sub>. As previously discussed, the project would implement MM AIR-1 with Best Management Practices (BMPs) recommended by the BAAQMD to reduce potential impacts related to fugitive dust emissions from use of the construction equipment. Therefore, project construction would have a less than significant cumulative impact after implementation of mitigation.

## Operational Emissions

### **Operational Air Pollutant Emissions: ROG, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>**

As previously discussed, the pollutants of concern include ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The project operational emissions for the respective pollutants were calculated using CalEEMod version 2016.3.2. As previously discussed, construction and operation of the project is anticipated to overlap. Earliest occupancy is expected to begin in 2022, while full buildout is expected to occur in 2026. In order to provide a conservative estimate, 2022 was used as the operational year for all phases. For reasons previously discussed, the BAAQMD Criteria Air Pollutant Significance thresholds were used. The estimated maximum daily net emissions are presented in Table 8, while annual net emissions from project operations are presented in Table 9.

**Table 8: Daily Operational Emissions (Unmitigated)**

Emissions Source	Pounds per Day			
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	13.07	3.07	0.36	0.36
Energy	0.13	1.07	0.09	0.09
Mobile (Motor Vehicles)	4.25	21.05	12.94	3.57
<b>Estimated Daily Emissions</b>	<b>17.45</b>	<b>25.19</b>	<b>13.39</b>	<b>4.02</b>
<b>Thresholds of Significance</b>	<b>54</b>	<b>54</b>	<b>82</b>	<b>54</b>
Exceeds Significance Threshold?	No	No	No	No
Notes: ROG = reactive organic gases      NO <sub>x</sub> = nitrous oxides PM <sub>10</sub> = particulate matter 10 microns or less in diameter PM <sub>2.5</sub> = particulate matter 2.5 microns or less in diameter The highest daily project emissions occurred in the winter run for NO <sub>x</sub> , PM <sub>10</sub> , and PM <sub>2.5</sub> . The highest ROG emissions occurred in the summer run. Calculations use unrounded results. Source: CalEEMod output (see Appendix A).				

**Table 9: Annual Operational Emissions (Unmitigated)**

Emissions Source	Tons per Year			
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	2.27	0.14	0.02	0.02
Energy	0.02	0.20	0.02	0.02
Mobile (Motor Vehicles)	0.69	3.74	2.25	0.62
<b>Estimated Annual Emissions</b>	<b>2.99</b>	<b>4.08</b>	<b>2.29</b>	<b>0.66</b>
<b>Thresholds of Significance</b>	<b>10</b>	<b>10</b>	<b>15</b>	<b>10</b>
Exceeds Significance Threshold?	No	No	No	No
Notes: ROG = reactive organic gases      NO <sub>x</sub> = oxides of nitrogen PM <sub>10</sub> = particulate matter 10 microns or less in diameter PM <sub>2.5</sub> = particulate matter 2.5 microns or less in diameter Source: CalEEMod output (see Appendix A).				

As shown in Table 8 and Table 9, the project would not result in operational-related air pollutants or precursors that would exceed BAAQMD's thresholds of significance, indicating that ongoing project operations would not be considered to have the potential to generate a significant quantity of air pollutants. Therefore, project operations would have a less than significant cumulative impact.

**c) Expose sensitive receptors to substantial pollutant concentrations?**

**Less than significant with mitigation incorporated.** A sensitive receptor is defined by the BAAQMD as the following: “Facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and residential areas.” The closest existing sensitive receptors are single-family homes located adjacent to the project site to the northwest.

The following criteria were applied to determine the significance of project emissions to sensitive receptors:

- **Criterion 1:** Construction of the project would not result in an exceedance of the health risk significance thresholds.
- **Criterion 2:** Operation of the project would not result in an exceedance of the health risk significance thresholds.
- **Criterion 3:** A CO hotspot assessment must demonstrate that the project would not result in the development of a CO hotspot that would cause an exceedance of the CO ambient air quality standards.
- **Criterion 4:** Construction or operations of the project would not expose sensitive receptors to substantial quantities of asbestos.

**Criterion 1: Project Construction Toxic Air Pollutants**

An assessment was made of the potential health impacts to surrounding sensitive receptors resulting from the emissions of TACs during construction. A summary of the assessment is provided below, while the detailed assessment is provided in Appendix A of this IS/MND.

DPM has been identified by the California Air Resources Board (ARB) as a carcinogenic substance.<sup>20</sup> Major sources of DPM include off-road construction equipment and heavy-duty delivery truck and worker activities.

***Estimation of Construction DPM Emissions***

Construction DPM emissions (represented as PM<sub>2.5</sub> exhaust) were estimated using CalEEMod version 2016.3.2, as described under the discussion for Impact 3(b). The construction DPM emissions were assumed to be generated within the project area being constructed in each phase. Construction was assumed to occur on a schedule of 8 hours per day and 5 days per week.

Based on the analysis presented in this section, emissions were estimated for the unmitigated scenario and a scenario with clean engines (Tier 4 Final mitigated). Equipment tiers refer to a generation of emission standards established by the United States Environmental Protection Agency (EPA) and the 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

<sup>20</sup> California Air Resources Board (ARB). 1998. The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Website: [www.arb.ca.gov/toxics/dieseltac/factsht1.pdf](http://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf). Accessed May 26, 2017.



greater the tier it is likely to have. Excluding engines greater than 750 horsepower, Tier 1 engines were manufactured generally between 1996 and 2003. Since Tier 1 emission standards were established by the EPA in 1994, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by the EPA, as well as the ARB. Construction exhaust emissions of DPM, both unmitigated and Tier 4 Final mitigated, are shown in Table 10.

**Table 10: Project Diesel Particulate Matter Construction Emissions**

Year	On-site DPM as PM <sub>2.5</sub> Exhaust (tons/year)	Off-site DPM as PM <sub>2.5</sub> Exhaust (tons/year)
Unmitigated	0.3001	0.00064
Tier 4 Final Mitigated	0.0316	0.00064
Source: Appendix A.		

### **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 exposed to TACs.<sup>21</sup> 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 estimation of cancer risk is shown in the equations below with the cancer risk adjustment factors provided in Table 11 for several types of sensitive/residential receptors (infant, child, and adult).

$$\text{Cancer Risk} = C_{\text{DPM}} \times \text{Inhalation Exposure Factor} \quad (\text{EQ-1})$$

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.

$C_{\text{DPM}}$  = 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:

$$\text{Inhalation Exposure Factor} = \text{CPF} \times \text{EF} \times \text{ED} \times \text{DBR} \times \text{AAF/AT} \quad (\text{EQ-2})$$

<sup>21</sup> Bay Area Air Quality Management District (BAAQMD). 2016. Air Toxics New Source Review Program Health Risk Assessment (HRA) Guidelines. January. 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](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 June 1, 2019.

Where:

CPF = Inhalation cancer potency factor for the TAC: 1.1 (mg/kg-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 11.

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

The recommended values for the various cancer risk parameters, shown in EQ-2, above, are provided in Table 11 for the off-site sensitive receptor scenario (Scenario 1). All factors other than exposure duration remained constant in the other four scenarios. For each scenario, the exposure duration was adjusted to match the duration of the construction period being analyzed. For detailed parameter for each scenario analyzed, please see Appendix A.

**Table 11: Exposure Assumptions for Cancer Risk for Scenario 1**

Receptor Type	Exposure Frequency		Exposure Duration (years)	Age Sensitivity Factors (ASF)	Time at Home Factor (TAH) (%)	Daily Breathing Rate (DBR) <sup>(1)</sup> (L/kg-day)
	Hours/day	Days/year				
Sensitive/Residential—Infant						
3 <sup>rd</sup> Trimester	24	350	0.25	10	85	361
0 to < 2 years	24	350	2	10	85	1,090
2 to < 6 years	24	350	3.94	3	72	631
Sensitive Receptor—Child						
> 2 to 16 years	24	350	6.19	3	72	572
Sensitive Receptor—Adult						
> 16 years	24	350	6.19	1	73	261
Notes:						
<sup>(1)</sup> The daily breathing rates recommended by the BAAQMD for sensitive/residential receptors assume the 95 <sup>th</sup> percentile breathing rates for all individuals less than 2 years of age and 80 <sup>th</sup> percentile breathing rates for all older individuals. (L/kg-day) = liters per kilogram body weight per day						
Sources: Appendix A.						
Bay Area Air Quality Management District (BAAQMD). 2016. Air Toxics New Source Review Program Health Risk Assessment (HRA) Guidelines. Website: <a href="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">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</a> . Accessed May 25, 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: <a href="https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf">https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf</a> . Accessed May 25, 2019.						

### Estimation of Non-Cancer Chronic 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 limit. Available reference exposure

limits promulgated by the California Office of Environmental Health Hazards Assessment (OEHHA) were considered in the assessment.

Risk characterization for non-cancer health hazards from TACs is expressed as a hazard index. The Hazard Index is a ratio of the predicted concentration of the project's emissions to a concentration considered acceptable to public health professionals, termed the reference exposure limit.

The hazard index assumes that chronic sub-threshold exposures adversely affect a specific organ or organ system (toxicological endpoint). 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 Reference Exposure Level (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 reference exposure limit for DPM of  $5 \mu\text{g}/\text{m}^3$ . The principal toxicological endpoint assumed in this assessment was through inhalation.

### ***Estimation of PM<sub>2.5</sub> Hazards***

The BAAQMD has included significance thresholds for PM<sub>2.5</sub> from recent studies that show health impacts from exposure to this pollutant. The construction emissions of PM<sub>2.5</sub> incorporated into this assessment included both DPM (as PM<sub>2.5</sub> exhaust) and PM<sub>2.5</sub> total (PM<sub>2.5</sub> exhausted combined with PM<sub>2.5</sub> fugitive dust). As discussed in Air Quality Impact b), MM AIR-1 would be required to reduce fugitive dust emissions during construction. Annual PM<sub>2.5</sub> emissions were estimated assuming compliance with MM AIR-1. It should be noted that inclusion of MM AIR-1 only reduces PM<sub>2.5</sub> total and not PM<sub>2.5</sub> exhaust.

### ***Estimation of Health Risks and Hazards from Project Construction***

Table 12 shows the Maximum Impacted Sensitive Receptor (MIR) for each scenario analyzed.

**Table 12: Maximum Impacted Sensitive Receptor in Each Scenario Analyzed**

Phase	MIR	Distance from Closest On-site Construction
<b>Scenario 1:</b> Full Build-out Assessing Off-site Sensitive Receptors Only	An existing residence located approximately 160 feet northeast of the eastern border of the project site.	160 feet
<b>Scenario 2:</b> Phase 1 Built and Phases 2—5 under Construction	A future project residence located in Phase 1 of Parcel A	32 feet
<b>Scenario 3:</b> Phases 1 and 2 Built and Phases 3—5 Under Construction	A future project residence located in Phase 1 of Parcel A (same MIR as Scenario 2)	32 feet
<b>Scenario 4:</b> Phases 1—3 Built and Phases 4 and 5 Under Construction	A future project residence located in Phase 3 of Parcel A	17 feet
<b>Scenario 5:</b> Phases 1—4 Built and Phase 5 Under Construction	A future project residence located in Phase 4 of Parcel A	14 feet

Source: Appendix A.

Table 13 presents a summary of the project's construction cancer risk, chronic non-cancer hazard, and PM<sub>2.5</sub> concentration impacts at the MIR prior to the application of any equipment mitigation for each scenario analyzed.

**Table 13: Estimated Health Risks and Hazards during Project Construction—Unmitigated**

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index <sup>2</sup>	Annual PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )
<b>Scenario 1: Full Buildout Assessing Off-site Sensitive Receptors Only</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	57.6	0.031	0.55
Risks and Hazards at the MIR: Child <sup>1</sup>	17.9	0.031	0.55
Risks and Hazards at the MIR: Adult <sup>1</sup>	2.8	0.031	0.55
<b>Scenario 2: Phase 1 Built and Phases 2—5 Under Construction</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	201.2	0.117	0.59
Risks and Hazards at the MIR: Child <sup>1</sup>	52.7	0.117	0.59
Risks and Hazards at the MIR: Adult <sup>1</sup>	8.1	0.117	0.59
<b>Scenario 3: Phases 1 and 2 built and Phases 3—5 Under Construction</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	173.5	0.111	0.56
Risks and Hazards at the MIR: Child <sup>1</sup>	39.8	0.111	0.56
Risks and Hazards at the MIR: Adult <sup>1</sup>	6.1	0.111	0.56
<b>Scenario 4: Phases 1—3 Built and Phases 4 and 5 Under Construction</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	26.7	0.018	0.09
Risks and Hazards at the MIR: Child <sup>1</sup>	4.6	0.018	0.09
Risks and Hazards at the MIR: Adult <sup>1</sup>	0.7	0.018	0.09
<b>Scenario 5: Phases 1—4 Built and Phase 5 Under Construction</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	14.8	0.064	0.013
Risks and Hazards at the MIR: Child <sup>1</sup>	2.2	0.064	0.013
Risks and Hazards at the MIR: Adult <sup>1</sup>	0.3	0.064	0.013
<b>Highest From Any Scenario</b>			
Risks and Hazards at the MIR	201.2	0.117	0.59
<b>BAAQMD Thresholds of Significance</b>	<b>10</b>	<b>1</b>	<b>0.30</b>
Exceeds Individual Source Threshold?	Yes	No	Yes
Notes: <sup>1</sup> The MIR for each scenario analyzed is shown in Table 12. <sup>2</sup> Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as PM <sub>2.5</sub> exhaust) by the REL of 5 µg/m <sup>3</sup> . Source: Appendix A.			

As shown above in Table 13, the project's construction DPM emissions would not exceed the BAAQMD chronic non-cancer hazard index threshold of significance at the MIR in any scenario; however, the project's construction DPM emissions would exceed the BAAQMD cancer risk threshold of significance and the project's PM<sub>2.5</sub> emissions would exceed the BAAQMD annual PM<sub>2.5</sub> threshold of significance. Therefore, mitigation would be necessary to reduce potentially significant impacts from construction of the project. As outlined in MM AIR-2, mitigation requiring the use of construction equipment meeting Tier 4 Final standards is recommended to reduce impacts to sensitive receptors during project construction.

Table 14 presents a summary of the project's construction cancer risk, chronic non-cancer hazard, and PM<sub>2.5</sub> concentration impacts at the MIR after implementation of MM AIR-2.

**Table 14: Estimated Health Risks and Hazards during Project Construction—Mitigated**

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index <sup>2</sup>	Annual PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )
<b>Scenario 1: Full Buildout Assessing Off-site Sensitive Receptors Only</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	6.4	0.003	0.05
Risks and Hazards at the MIR: Child <sup>1</sup>	2.0	0.003	0.05
Risks and Hazards at the MIR: Adult <sup>1</sup>	0.3	0.003	0.05
<b>Scenario 2: Phase 1 Built and Phases 2—5 Under Construction</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	5.6	0.003	0.02
Risks and Hazards at the MIR: Child <sup>1</sup>	1.5	0.003	0.02
Risks and Hazards at the MIR: Adult <sup>1</sup>	0.2	0.003	0.02
<b>Scenario 3: Phases 1 and 2 Built and Phases 3—5 Under Construction</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	4.1	0.003	0.01
Risks and Hazards at the MIR: Child <sup>1</sup>	0.9	0.003	0.01
Risks and Hazards at the MIR: Adult <sup>1</sup>	0.1	0.003	0.01
<b>Scenario 4: Phases 1—3 Built and Phases 4 and 5 Under Construction</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	3.7	0.002	0.01
Risks and Hazards at the MIR: Child <sup>1</sup>	0.6	0.002	0.01
Risks and Hazards at the MIR: Adult <sup>1</sup>	0.1	0.002	0.01
<b>Scenario 5: Phases 1—4 Built and Phase 5 Under Construction</b>			
Risks and Hazards at the MIR: Infant <sup>1</sup>	2.1	0.002	0.01
Risks and Hazards at the MIR: Child <sup>1</sup>	0.3	0.002	0.01
Risks and Hazards at the MIR: Adult <sup>1</sup>	<0.1	0.002	0.01
<b>Highest From Any Scenario</b>			
Maximum Risks and Hazards	6.4	0.003	0.05
<b>BAAQMD Thresholds of Significance</b>	<b>10</b>	<b>1</b>	<b>0.30</b>



**Table 14 (cont.) : Estimated Health Risks and Hazards during Project Construction—  
Mitigated**

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index <sup>2</sup>	Annual PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )
Exceeds Individual Source Threshold?	No	No	No
<p>Notes:</p> <p><sup>1</sup> The MIR for each scenario analyzed is shown in Table 12.</p> <p><sup>2</sup> Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as PM<sub>2.5</sub> exhaust) by the REL of 5 µg/m<sup>3</sup>.</p> <p>Source: Appendix A.</p>			

As noted in Table 14, the project's construction emissions would not exceed any applicable significance threshold after application of MM-AIR 2; therefore, project-related emissions would not result in significant health impacts to nearby existing and proposed sensitive receptors during construction.

### **Criterion 2: Project-Specific Operational Toxic Air Pollutants**

The project proposes to develop 304 housing units and related infrastructure on the project site and would not have on-site sources of TACs during operation.<sup>22</sup> As described in the project-specific traffic impact analysis, the project is expected to generate an increase of 2,092 average daily vehicle trips.<sup>23</sup> The project would primarily generate trips for residents and visitors traveling to and from the project site. The daily travel trips to and from the project site would primarily be generated by passenger vehicles. Because nearly all passenger vehicles are gasoline-combusted, the project would not generate a significant amount of DPM emissions during operation. Therefore, the project would not result in significant health impacts to nearby sensitive receptors during operation.

### **Criterion 3: CO Hotspot**

The CO emissions from traffic generated by the project are a concern at the local level. Congested intersections can result in high, localized concentrations of CO.

The BAAQMD recommends a screening analysis to determine if a project has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is necessary. The project would result in a less than significant impact to air quality for local CO if any of the following screening criteria are met:

- 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
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; or

<sup>22</sup> Though the project would develop 304 instead of 305 units, 305 housing units was used to estimate emissions as a conservative estimate.

<sup>23</sup> W-Trans. 2019. Traffic Impact Study for the Baumgardner Ranch Project. May 28.

- 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).

No intersections impacted by the project would experience traffic volumes of 44,000 vehicles per hour. According to the traffic analysis prepared for the project by W-Trans, the intersection of Cloverdale Boulevard and Redwood Highway Westbound Overpass approach would experience the highest cumulative peak-hour traffic volumes among the project study intersections. This intersection is expected to carry 1,461 vehicles per hour during the PM peak-hour in Future Plus Project scenario. None of the intersections near the project site would have peak hourly traffic volumes exceeding 44,000 vehicles per hour. Furthermore, the adjacent roadways are not located in an area where vertical or horizontal atmospheric mixing is substantially limited. Therefore, based on the above criteria, the project would not exceed the CO screening criteria and would have a less than significant impact related to CO.

#### **Criterion 4: Asbestos**

The California Geological Survey, previously known as the Division of Mines and Geology, published a guide for generally identifying areas that are likely to contain naturally occurring asbestos (NOA). The associated California Geological Survey map indicates that there are several locations within Sonoma County that are likely to contain NOA; however, none of these sites are located in the project vicinity.<sup>24</sup> Therefore, construction or operations of the project would not result in the exposure of sensitive receptors to NOA.

#### **Project as a Receptor**

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 in *California Building Industry Association v. BAAQMD* concluded 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. Therefore, impacts from existing sources of TAC emissions on sensitive receptors on the project site are not subject to CEQA. No further discussion is necessary.

#### **d) Result in other emission (such as those leading to odors) adversely affecting a substantial number of people?**

**Less than significant impact.** As stated in the BAAQMD 2017 Air Quality Guidelines, odors are generally regarded as an annoyance rather than a health hazard and the ability to detect odors varies considerably among the populations and overall is subjective.

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:

<sup>24</sup> California Department of Conservation. California Geological Survey. 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](ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf). Accessed June 7, 2019.

- 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 does not have a recommended odor threshold for construction activities. However, BAAQMD recommends screening criteria that are based on distance between types of sources known to generate odor and the receptor. For projects within the screening distances, the BAAQMD has the following threshold for project operations:

An odor source with five (5) or more confirmed complaints per year averaged over three years is considered to have a significant impact on receptors within the screening distance shown in Table 3-3 [of the BAAQMD's guidance].

### ***Project Construction***

Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore would not create objectionable odors affecting a substantial number of people. As such, construction odor impacts would be less than significant.

### ***Project Operation***

#### *Project as an Odor Generator*

Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The project is residential in nature and does not contain land uses typically associated with emitting objectionable odors. During operation of the project, odors would primarily consist of vehicles traveling to and from the site. These occurrences would not produce significant odors; therefore, operational impacts would be less than significant.

**Project as a Sensitive Receptor** The project consists of a residential development and would have the potential to place sensitive receptors (residents) near existing or planned sources of odors. The project site is not located within the vicinity of agricultural operations (e.g., dairies, feedlots, etc.), landfills, asphalt batch plants, or chemical manufacturing; however, there are several land uses within the screening distances shown in in Table 3-3 of the BAAQMD's guidance. These land uses include a recycling center (located at 1139 South Cloverdale Boulevard, Cloverdale) and three auto-body repair shops that could perform on-site painting/coating operations. The closest of these land uses is Roux Body & Paint, located approximately 0.06 mile northeast of the project site. Public records requests were filed with the NoSoCoAir to obtain the most recent odor compliant history for possible sources within the vicinity of the project site. None of potential sources of odor have received five or more confirmed complaints per year complaints over the last 3-year period. Therefore, 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 any recent 3-year period. The project would not place odor 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 an odor sensitive receptor would be less than significant.

## Mitigation Measures

- MM AIR-1** The following Best Management Practices (BMPs) shall be included in the project design and implemented during construction:
- All active construction areas shall be watered at least two times per day.
  - All exposed non-paved surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and access roads) shall be watered at least three times per day and/or non-toxic soil stabilizers shall be applied to exposed non-paved surfaces.
  - All haul trucks transporting soil, sand, or other loose material off-site shall be covered and/or shall maintain at least 2 feet of freeboard.
  - 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 shall be limited to 15 miles per hour.
  - All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
  - Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (California Code of Regulations [CCR] Title 13 § 2485). Clear signage regarding idling restrictions 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.
  - The prime construction contractor shall post a publicly visible sign with the telephone number and person to contact at the City of Cloverdale regarding dust complaints. The City of Cloverdale and the construction contractor shall take corrective action within 48 hours. The Northern Sonoma County Air Pollution Control District (NoSoCoAir) phone number shall also be visible to ensure compliance with applicable regulations.
- MM AIR-2** During construction activities, all off-road equipment with engines greater than 50 horsepower shall meet either United States Environmental Protection Agency (EPA) or the California Air Resources Control Board (ARB) Tier 4 Final off-road emission standards. The construction contractor shall maintain records concerning its efforts to comply with this requirement, including equipment lists. Off-road equipment descriptions and information may include but are not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>4. Biological Resources</b> <i>Would the project:</i>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

This section evaluates potential effects on biological resources that may result from project implementation. The analysis is based on a site visit by FCS Biologist, Joaquin Pacheco, on March 11, 2019. In addition, descriptions and analysis in this section are based on results from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) and the United States Fish and Wildlife Service (USFWS) database searches. FCS also reviewed an Oak Tree Report prepared on April 17, 2019, by Kay J. Greeley and a Biological Evaluation Report prepared on June 8, 2017, by Marcus H. Bole & Associates.



Supporting information is provided in Appendix B. A general characterization of on-site biological resources is provided in Exhibit 8.

Would the project:

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

**Less than significant impact with mitigation incorporated.** For the purpose of this analysis, special-status species refers to all species formally listed as threatened and/or endangered under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA); California Species of Special Concern; designated as Fully Protected by the CDFW; given a rank of 1A (plants presumed extinct in California), 1B (plants rare, threatened, or endangered in California and elsewhere), 2 (plants rare, threatened, or endangered in California, but more numerous elsewhere), 3 (plants about which more information is needed, “a review list”) or 4 (plants of limited distribution, “a watch list”) by California Native Plant Society (CNPS);<sup>25</sup> or designated as special-status by city, county, or other regional planning documents. Federal and State listed threatened and/or endangered species are legally protected under FESA/CESA. The designated special-status species listed by the CNPS have no direct legal protection, but require an analysis of the significance of potential impacts under CEQA Guidelines. Special-status plant and wildlife species typically occur in undeveloped areas. Although it is less likely, it is also possible for them to occur within developed areas.

The project site contains characteristics of land that has been developed or disturbed, including impervious gravel surfaces, previous agricultural activity, and disturbed soils. Seven special-status plant species and five special-status wildlife species were evaluated for their potential to occur on the project site, based on their ecology and regional occurrences within USGS *Cloverdale, California* 7.5-minute quadrangle. Potential impacts occurring to special-status species, if they were found on-site, would likely be significant.

### ***Special-Status Plant Species***

Seven special-status plant species have been recorded with the potential to occur within the project site based on CNDDDB and CNPS database searches, but due to the high level of agricultural activity and disturbance previously experienced at the project site, none are expected to occur on-site and no mitigation measures are recommended. The site is dominated by invasive and non-native species of vegetation such as wild oat (*Avena fatua*), Johnson grass (*Sorghum halepense*), blackberry brambles (*Rubus* spp.), and hare barley (*Hordeum murinum*). A plant’s potential to occur on the project site was based on the presence of suitable habitats, soil types, and occurrences recorded by the USFWS, CNPS, or CNDDDB within the Cloverdale quadrangle, and field observations made during the March 11, 2019, site survey by FCS Biologist, Joaquin Pacheco. Based on the high level of disturbance and lack of suitable soil types within project boundaries, it was determined that all seven special-status plant species are considered unlikely to occur on the project site. Many of the listed plants require forest woodland habitat, vernal pools, or contiguous riparian areas to survive.

<sup>25</sup> All plants appearing on CNPS List 1 or 2 are considered to meet the CEQA Guidelines Section 15830 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.

### **Special-status Wildlife Species**

As noted above, five special-status wildlife species were evaluated for their potential to occur on project site. Because of the highly disturbed nature of the project site and previous agricultural uses coupled with an absence of suitable habitat, few special-status wildlife species have the potential to occur within the project boundaries. However, the largely undisturbed oak woodland habitat for one special-status species—Townsend's big-eared bat (*Corynorhinus townsendii*). MM BIO-1a would reduce impacts to Townsends' big-eared bat to less than significant by preventing take and/or mortality of individual bats roosting in trees and buildings and implementing pre-demolition surveys to avoid direct mortality of roosting bats if present.

The remaining special-status species are not likely to be found on-site given the high level of disturbance within the project boundaries as well as the urban context surrounding the eastern and northern sides of the site. In addition, the roadside drainage ditch would not provide suitable habitat for any of the remaining special-status species. Proposed development would be setback from the on-site unnamed drainage; thus, this resource would not be adversely affected.

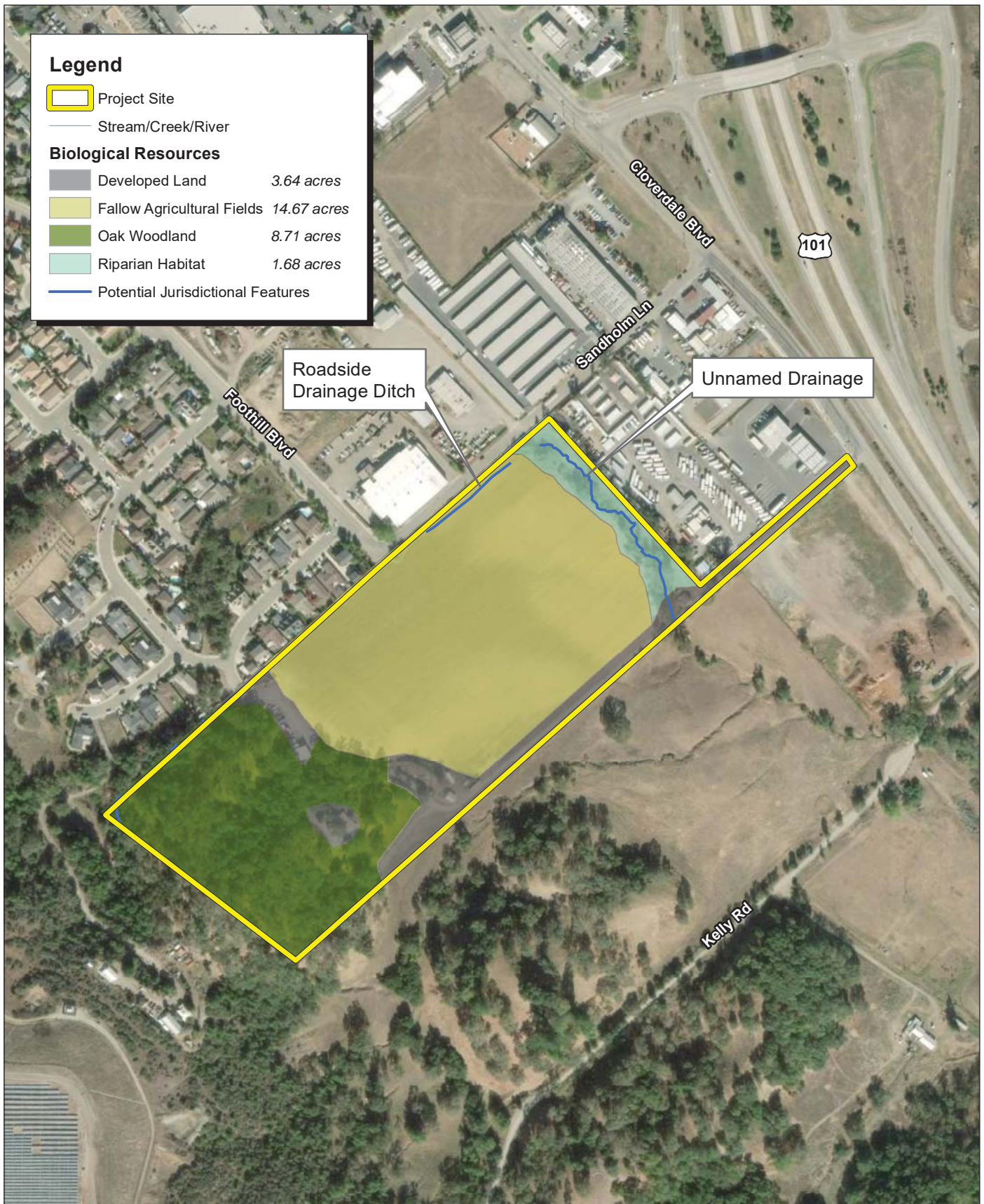
The project site and its adjacent areas contain mature trees that support potential habitat for bird species protected under the Migratory Bird Treaty Act (MBTA). Construction activities could disturb nesting and breeding birds in trees within and around the construction site. Potential impacts on special-status and migratory birds that could result from the construction and operation of the project include the destruction of eggs or occupied nests, mortality of young, and the abandonment of nests with eggs or young birds prior to fledging. If these species were found to be present, impacts to these species would be significant.

MM BIO-1b would reduce impacts to migratory and nesting birds and raptors protected under the MBTA to less than significant by preventing take of individuals roosting in trees by requiring preconstruction surveys and alternating construction activities to avoid disturbance of any active nests if present.

With implementation of MM BIO-1a and MM BIO-1b, impacts to special-status species would be less than significant.

**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 Wildlife or U.S. Fish and Wildlife Service?**

**Less than significant impact with mitigation incorporated.** Because of the presence of the oak woodland and sparse riparian habitat associated with the unnamed drainage, located along the eastern boundary of the project site, the project site has the potential to contain sensitive natural communities. The planned developmental setback from the edge of the oak woodland would remove the potential for any sensitive natural communities within the woodland to be adversely impacted by project implementation. However, as part of the project design, Street A will be widened. Street A runs along the southern property line and contains an existing 30-foot long and approximately 30-inch in diameter (150 square feet), corrugated metal pipe culvert that is in need of replacement and would be replaced as part of the project. The replacement of the culvert would result in minor impacts to the unnamed drainage and its associated riparian habitat; these impacts would be potentially significant.



Source: ESRI Aerial Imagery.

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## Exhibit 8 Biological Resources

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As discussed in Impact 4(c), implementing the avoidance, minimization, and mitigation measures set forth in the 404/401/1602 permits and agreements as outlined in MM BIO-2a and MM BIO-2b would address potential direct and indirect impacts to the unnamed drainage ditch and its riparian corridor. As such, impacts to sensitive natural communities including riparian habitat would be less than significant.

- 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?**

**Less than significant impact with mitigation incorporated.** During the March 11, 2019 site visit, it was noted that a roadside drainage ditch on the project site located along the southern side of Sandholm Lane and the unnamed drainage within the eastern portion of the property are considered jurisdictional features (Exhibit 8). On-site drainages take stormwater flows to Icaria Creek a seasonal creek that flows to the Russian River. This conclusion is further supported by the Biological Resources Evaluation and Wetland Determination completed by Marcus H. Bole & Associates. The roadside drainage ditch and unnamed drainage contained hydrophytic vegetation and running or standing water at the time of the survey.

Project construction has the potential to result in impacts to the roadside drainage ditch and the unnamed drainage as a result of offsite stormwater flow as well as the planned culvert replacement shown in Exhibit 6. Implementing the avoidance, minimization and mitigation measures set forth in the 404/401/1602 permits and agreements as outlined in MM BIO-2a and MM BIO-2b would address potential direct and indirect impacts to the roadside drainage ditch and unnamed drainage. With implementation of MM BIO-2a and MM BIO-2b, impacts to State or federally protect wetlands would be less than significant.

- 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?**

**Less than significant impact with mitigation incorporated.** The project site does not contain any significant fish or wildlife migratory corridors. The project would avoid the majority of on-site trees, thereby minimizing impacts to potential bird nesting sites. The 31 trees to be removed would be mitigated through additional plantings and tree protection measures as described in Impact 4(e). A map depicting the locations of the trees to be removed can be found in Appendix B.

The mitigation measures protecting against impacts to migratory and nesting birds (MM BIO-1a and MM BIO-1b) would reduce impacts to the movement of any native wildlife species. Although the project site may offer a corridor for wildlife movement, the site is limited in size and connectivity when compared with surrounding open space and adjacent urban uses. Therefore, impacts to wildlife movement or nursery sites would be less than significant with mitigation.



**e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**Less than significant impact with mitigation incorporated.** In April 2019, the City of Cloverdale added a Tree Preservation Ordinance to its Municipal Code (Chapter 18.17). This ordinance calls for the protection of 14 tree species with a diameter at breast height (DBH) of 24 inches or greater, as well as protection for coast redwood (*Sequoia sempervirens*) trees with a DBH greater than 48 inches. “Heritage trees,” which are defined as any indigenous tree species of historic, cultural, or environmental significance to the community, such as a commemorative planting or trees that enhance the City’s canopy, are also protected under the Tree Preservation Ordinance. Additionally, the Tree Preservation Ordinance extends protection to all trees, regardless of species, if located in riparian areas. The removal of any of these protected species requires a permit from the City of Cloverdale.

Chapter 18.17 of the Municipal Code requires all protected trees permitted to be removed that have been determined by a qualified Arborist to be in excellent or good health, and/or with moderate to good structure, to be replaced on a 1:1 trunk diameter basis. Protected trees that have moderate or marginal health, and/or with marginal structure, shall be replaced on a 2:1 trunk diameter basis. Trees in poor health or structure are not required to be replaced.

Additionally, the City of Cloverdale requires that all project applicants include a tree preservation plan along with tree removal permit application(s).

An Oak Tree Report for the project site was prepared by Kay J. Greeley, Board Certified Master Arborist, on April 17, 2019 (Appendix B). The Oak Tree Report inventoried native oak trees measuring 24 inches DBH or greater within the development area. Within the development area, 139 trees were inventoried, all of which are different species of oak trees. The dominant species were valley oak (*Quercus lobata*) and California black oak (*Q. kelloggii*), although the site also contains coast live oak (*Q. agrifolia*) and interior live oak (*Q. wislizenii*). Of the 139 oak trees inventoried, 25 were at least 24 inches DBH, and, of these 25 trees, 12 would be removed to construct the project. As noted in the Oak Tree Report, four of the 12 protected trees to be removed have significant structural defects and therefore would be excluded from the mitigation requirement. With respect to trees located within a riparian corridor, there is one dead oak within the unnamed drainage, but it is dead and hazardous and does not qualify for protection under the Tree Preservation Ordinance. Therefore, a total of eight trees would require mitigation under the Tree Preservation Ordinance; these impacts would be potentially significant.

MM-BIO 3 would require the project applicant to develop a tree preservation plan and obtain any applicable tree removal permit application(s). Through implementation of MM BIO-3, the project would not conflict with any local policies or ordinances protecting biological resources and impacts would be less than significant.

**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?**

**No impact.** The project site does not fall within the coverage area of a habitat conservation plan or natural community conservation plan. The project site is approximately 20 miles north of the nearest habitat conservation plan area (Santa Rosa Plain Conservation Strategy). Therefore, there would be no impact related to consistency with a conservation plan.

## Mitigation Measures

**MM BIO-1a Impacts to Townsend's big-eared bat**

To reduce construction-related impacts to special-status bat species, including Townsend's big-ear bat, a bat survey shall be conducted between March 1 and July 31 by a qualified Wildlife Biologist in the year prior to ground disturbance. If no bat roosts are detected, then no further action is required.

If a colony of bats is found roosting on-site, then the following mitigation will be implemented to reduce the potential disturbance:

- If a female or maternity roost of bats is found on the project site, a Wildlife Biologist through coordination with the California Department of Fish and Wildlife (CDFW) shall determine what physical and timed buffer zones shall be employed to ensure the continued success of the colony. Such buffer zones may include a construction-free barrier of 200 feet from the roost and/or the timing of the construction activities outside of the maternity roost season (after July 31 and before March 1).

**MM BIO-1b Impacts to Migratory and Nesting Birds**

If construction or tree removal is proposed during the breeding/nesting season for local avian species (typically February 15 through August 31), a focused survey for active nests of raptors and migratory birds within and in the vicinity of (no less than 250 feet outside the project boundaries, where possible) the project site shall be conducted by a qualified Biologist. Two surveys will be conducted, at least 1 week apart, with the second survey occurring no more than 2 days prior to tree removal. If no active nests are found, tree removal or construction activities may proceed.

If an active nest is located during pre-construction surveys, the United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Wildlife (CDFW) (as appropriate) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted to avoid disturbance of the nest until it is abandoned or the Biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones or alteration of the construction schedule.

**MM BIO-2a Obtain CWA Sections 401 and 404 Permits Prior to Construction**

- The project applicant shall obtain a Section 404 Clean Water Act (CWA) permit for impacts to waters of the United States. If required by the CWA, the project applicant shall also obtain a Section 401 permit from the Regional Water Quality Control Board (RWQCB). These permits shall be obtained prior to issuance of grading permits and implementation of the project.
- The project applicant shall design the project to result in no net loss of functions and values of waters of the United States by incorporating impact avoidance, impact minimization, and/or compensatory mitigation for the impact, as determined in any CWA Section 404/401 permits required by the CWA.
- Compensatory mitigation may consist of (1) obtaining credits from a mitigation bank; (2) making a payment to an in-lieu fee program that will conduct wetland, stream, or other aquatic resource restoration, creation, enhancement, or preservation activities; and/or (3) providing compensatory mitigation through an aquatic resource restoration, establishment, enhancement, and/or preservation activity. This final type of compensatory mitigation may be provided at or adjacent to the impact site (i.e., on-site mitigation) or at another location, usually within the same watershed as the permitted impact (i.e., off-site mitigation). The project/permit applicant retains responsibility for the implementation and success of the mitigation project.

**MM BIO-2b Obtain Streambed Alteration Agreement Prior to Construction**

The project applicant shall ensure that the jurisdictional features within the project site are not obstructed and human intrusion into the riparian area is minimized. In compliance with Section 1600 of the California Fish and Game Code, the project applicant shall enter into a Streambed Alteration Agreement prior to conducting any construction activities within the creek corridor (defined by the California Department of Fish and Wildlife [CDFW]) as the top of bank plus the outer edge of the dripline of riparian vegetation) which will identify conditions the project applicant will implement. Conditions shall include but not be limited to the implementation of erosion and bank stabilization measures, riparian habitat enhancement, and/or restoration and revegetation of the stream corridor habitat at no less than a 1:1 ratio. The details of this mitigation effort shall be outlined in a riparian habitat mitigation plan that shall be implemented as part of the construction of the culvert.

**MM BIO-3 Tree Preservation Plan**

The project applicant shall provide a tree preservation plan which includes:

1. An inventory of all the existing trees with a trunk diameter of 24 inches or greater, measured 4.5 feet above the grade. The inventory shall include location, size, health, and species.
2. An inventory of all protected trees.
3. The proposed location of all new trees to be planted.

4. The location of existing and proposed landscape.
5. The location of existing trees to be removed.
6. Preservation measures required by the particular species of tree(s) as recommended by the City Arborist and the Master Tree List.
7. Obtain tree removal permit(s).
8. Tree protection guidelines shall be implemented during construction through the clearing, grading, and construction phases as outlined in the Oak Tree Report prepared by Kay J. Greeley, Board Certified Master Arborist, on April 17, 2019.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>5. Cultural Resources and Tribal Cultural Resources</b>				
<i>Would the project:</i>				
a) Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</i>				
d) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) 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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

This section is based on a Phase I Cultural Resources Survey prepared by Hudlow Cultural Resources Associates for the project, a Letter of Concurrence from the California Office of Historic Preservation (OHP), and a Sacred Lands File (SLF) search conducted by the Native American Heritage Commission (NAHC). These documents are included in Appendix C. The Phase I Cultural Resources Survey consisted of a pedestrian survey of the project area and a cultural resources record search.

As part of the Phase I Cultural Resources Survey, a record search of the project area and the environs within 1 mile was conducted at the Northwest Information Center (NWIC). NWIC staff performed the record search, August 24, 2017, AIC No. 17-0310. The record search revealed that one survey has been performed within the project area, S-024367. Nineteen additional surveys have been conducted within 0.5 mile of the project area. One cultural resource has been recorded within the project area, California SHL No. 981, Icaria-Speranza Utopian Commune. Two additional cultural resources have been recorded within 0.5 mile: both are historic resources; a church and a farmstead.



## Cultural Resources

Would the project:

- a) **Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?**

**Less than significant impact.** Two potentially historic resources were identified on the project site: Resource No. ICD-1 and ICD-2. Resource ICD-1 and ICD-2 were determined not to qualify as a historic resource because neither would not meet the California Register of Historical Resources Criteria for Designation. As discussed in the Phase I Cultural Resources Survey, Resource ICD-1 and ICD-2 were determined to not have made a significant contribution to local or regional history or the cultural heritage of California or the United States; are not associated with the lives of persons important to local, California, or national history; does not embody the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values; or does not have the potential to yield, information important to the prehistory or history of the local area, California, or the nation. These structures are therefore not considered historic resources under CEQA, and the OHP concurred with this assessment in a letter dated March 15, 2018 (Appendix C). Therefore, impacts would be less than significant.

- b) **Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?**

**Less than significant impact with mitigation incorporated.** No archeological resources have been previously recorded within the project site. The closest archeological resource to the project site is California State Historic Landmark No. 981, the Icaria-Speranza Utopian Commune. According to existing mapping, a portion of this resource is potentially located on the project site; however, the exact boundaries of this resource are unknown. The Phase I Cultural Resource Survey determined this resource does not have any physical aspect on the project site, and no evidence of any historic or prehistoric resources were identified on the property during the pedestrian survey (Appendix C). For these reasons, the potential for the project to have an adverse effect on archaeological resources is considered low.

While unlikely, subsurface construction activities always have the potential to damage or destroy previously undiscovered archaeological resources. Such resources include but are not limited to stone, bone, wood, or shell artifacts; features including hearths, foundations, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, and other refuse. Implementation of MM CUL-1 is therefore required to reduce potential impacts to archaeological resources that may be discovered during project construction. With the incorporation of mitigation, impacts to archaeological resources would be less than significant.

- c) **Disturb any human remains, including those interred outside of formal cemeteries?**

**Less than significant impact with mitigation incorporated.** No human remains or cemeteries are known to exist within or near the project area. However, there is always the possibility that subsurface construction activities associated with the proposed 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, 5097.98, 5097.99 must be followed. In the unlikely event human remains are discovered, implementation of MM CUL-2 would reduce this potential impact to a less than significant level.

### **Tribal Cultural Resources**

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- d) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or**

**Less than significant impact with mitigation incorporated.** Records searches at the NWIC, which included a search of the California Register of Historical Resources, failed to identify any listed or eligible Tribal Cultural Resources (TCRs) that will be adversely affected by the proposed project. The NAHC SLF search, however, returned positive results for TCRs in the project vicinity that may be adversely affected by the project. The letter from the NAHC, dated March 15, 2019, requested that the Mishewal-Wappo Tribe of Alexander Valley be contacted for additional information. A letter providing a project description, project location map, and offer to engage in consultation pursuant to SB 18 and Assembly Bill (AB) 52 were sent to the Mishewal-Wappo by the City of Cloverdale on May 20, 2019. No responses were received from the Mishewal-Wappo within the consultation timeframe, and none have been received to date. Should any undiscovered TCRs be encountered during project construction, implementation of MM CUL-1 and MM CUL-2 will reduce potential impacts to a less than significant level.

- e) 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.**

**Less than significant impact with mitigation incorporated.** The NAHC SLF search returned positive results for TCRs that may be adversely affected by the project. The letter from the NAHC, dated March 15, 2019, requested that the Mishewal-Wappo Tribe of Alexander Valley be contacted for additional information. The letter included a list of seven additional Tribal representatives who may have additional information or interest in the project. Pursuant to SB 18 and AB 52, the City of Cloverdale reached out to all seven representatives with a letter providing a project description, project location map, and offer to engage in consultation on May 20, 2019. The City received responses from Middletown Rancheria, The Federated Indians of Graton Rancheria, and The Stewarts Point Rancheria Band of Kashia Pomo Indians. All tribes stated that they have no specific comments at this time, and no additional comments or requests for consultation were received (Appendix C). Should any undiscovered TCRs be encountered during project construction, implementation of MM CUL-1 and MM CUL-2 will reduce potential impacts to a less than significant level.

## Mitigation Measures

**MM CUL-1** 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 should avoid altering the materials until an archaeologist who meets the Secretary of Interior's Professional Qualification Standards for archaeology has evaluated the situation. The project applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. 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. The archaeologist shall make recommendations concerning appropriate measures that will be implemented to protect the resource, including but not limited to excavation and evaluation of the finds in accordance with the California Environmental Quality Act (CEQA) Guidelines. Any previously undiscovered resources found during construction within the Project Site shall be recorded on appropriate Department of Parks and Recreation (DPR) 523 forms and will be submitted to the City of Cloverdale, the Northwest Information Center (NWIC), and the California Office of Historic Preservation (OHP), if required.

**MM CUL-2** In the event of the accidental discovery or recognition of any human remains, California Environmental Quality Act (CEQA) Guidelines Section 15064.5; Health and Safety Code Section 7050.5; and Public Resources Code Sections 5097.94 and 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 Public Resources Code 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.

Additionally, California Public Resources Code Section 15064.5 requires the following relative to Native American Remains:

- When an initial study identifies the existence of, or the probable likelihood of, Native American Remains within a project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC as provided in Public Resources Code Section 5097.98. The project applicant may develop a plan for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American Burials with the appropriate Native Americans as identified by the NAHC.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>6. Energy</b> <i>Would the project:</i>				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

Energy sources include electricity, natural gas, and other fuels. Energy is generally transmitted either in the form of electricity, measured in kilowatts (kW)<sup>26</sup> or megawatts (MW),<sup>27</sup> or natural gas measured in therms or cubic feet.<sup>28</sup> Fuel, such as gasoline or diesel, is measured in gallons. Energy usage is typically quantified using the British Thermal Unit (BTU). The BTU is the amount of energy that is required to raise the temperature of one pound of water by 1°F (degrees Fahrenheit). As points of reference, the approximate amount of energy contained in a gallon of gasoline, 100 cubic feet (1 therm) of natural gas, and a kilowatt hour of electricity are 123,000 BTUs, 100,000 BTUs, and 3,400 BTUs, respectively.

According to the Sonoma County Regional Climate Action Plan (CAP), the City of Cloverdale's annual energy usage are 6,652 kilowatt-hour (kWh) of electricity and 441 therms of natural gas per household, per year.<sup>29</sup> Residents of Cloverdale receive their electricity and natural gas service from Pacific Gas and Electric (PG&E).<sup>30</sup> With respect to electricity, Sonoma Clean Power provides the electric generation service while PG&E provides delivery of electricity through the existing grid.<sup>31</sup>

All supporting information for this section is in Appendix D.

<sup>26</sup> 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.

<sup>27</sup> 1 MW = 1 million watts

<sup>28</sup> A therm is a unit for quantity of heat that equals 100,000 BTU. A BTU is the quantity of heat required to raise the temperature of 1 pound of liquid water 1°F at a constant pressure of 1 atmosphere.

<sup>29</sup> Sonoma County. 2016. Climate Action 2020 and Beyond. Sonoma County Regional Climate Action Plan. Website: [https://rcpa.ca.gov/wp-content/uploads/2016/07/CA2020\\_Plan\\_7-7-16\\_web.pdf](https://rcpa.ca.gov/wp-content/uploads/2016/07/CA2020_Plan_7-7-16_web.pdf). Accessed April 30, 2019.

<sup>30</sup> City of Cloverdale. 2008. General Plan Update Draft EIR. Accessed April 30, 2019.

<sup>31</sup> Sonoma Clean Power. 2019. About Us. Website: <https://sonomacleanpower.org/our-vision>. Accessed June 5, 2019.

Would the project:

- a) **Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

**Less than significant impact.** A significant impact would occur if the project would result in the wasteful, inefficient, or unnecessary use of energy.

### **Construction**

During construction, the project would result in energy consumption through the combustion of fossil fuels in construction vehicles, construction equipment, and the use of electricity for temporary buildings, lighting, and other sources. Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site clearing, grading, paving, and building construction. The types of equipment could include gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, frontend loaders, forklifts, and cranes. Construction equipment is estimated to consume a total of 99,597 gallons of diesel fuel.

Fuel use associated with construction vehicle trips generated by the project was also estimated; trips include construction worker trips, haul trucks trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the project was based on (1) the projected number of trips the project will generate (CalEEMod default values), (2) default average trip distance by land use in CalEEMod, and (3) fuel efficiencies estimated in the ARB 2017 Emissions Factors model (EMFAC2017) mobile source emission model. In total, the project would generate 2,301,540 vehicle miles traveled and a combined 99,338 gallons of gasoline and diesel during construction.

Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools. The City of Cloverdale Municipal Code does not designate permissible hours for construction. However, implementation of MM NOI-1 would ensure construction activities would be restricted to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturday. No construction activities shall be permitted on Sundays or holidays. As on-site construction activities would be restricted between these hours, it is anticipated that the use of construction lighting would be minimal. 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 79,552 kWh during the 75-month construction phase (Appendix D).

Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. California Code of Regulations, Title 13, Sections 2449(d)(2) and 2485, limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. In addition, given the cost of fuel, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. Therefore, it is anticipated that the construction phase of the project would not result in wasteful, inefficient, and unnecessary consumption of energy. Construction-related energy impacts would be less than significant.



## Operation

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 the modeling output files used to estimate greenhouse gas (GHG) emissions associated with the project, building operations would consume approximately 1.087 million kWh of energy and an estimated 4.248 million kilo-British Thermal Unit (kBtu) (4.165 million cubic feet) of natural gas on an annual basis (Appendix D).<sup>32</sup> The project would also include solar panels as a renewable energy source and that would generate approximately 500,000 kWh/year (Appendix D).

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 the estimates contained in the California Emissions Estimator Model (CalEEMod) output files, project-related vehicle trips would result in approximately 6.02 million vehicle miles traveled (VMT),<sup>33</sup> and consume an estimated 239,005 gallons of gasoline and diesel combined, on an annual basis<sup>34</sup> (modeling output files are included in Appendix A). The project site is located approximately 0.25 mile west of the Redwood Highway. As such, it would be in proximity to a regional route of travel. The project's locations near regional facilities would reduce travel on local roadways, reducing overall VMT and limiting the amount of stop and go traffic that results in inefficient fuel consumption. Additionally, Sonoma County Transit 60 and 60X bus stops are located approximately 0.15 mile to the northeast of the project site on South Redwood Highway. The existing transportation facilities in the area would provide future residents, visitors, and employees associated with the project access to public transportation, thus further reducing fuel consumption demand. For these reasons, project operational transportation fuel consumption would not result in the use of large amounts of energy, or use of energy in a wasteful manner and impacts would be less than significant.

### b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

**Less than significant impact.** The California Title 24 energy efficiency standards (as part of the California Building Standards Code [CBC]) are widely regarded as the most advanced energy efficiency standards. These standards help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in buildings and promote energy conservation. The project would be required to comply with these standards.

The Housing Element of the City of Cloverdale General Plan contains goals and policies related to renewable energy and energy efficiency.<sup>35</sup> Goal H-6 promotes effective and efficient land use when meeting housing needs, including consideration of energy and natural resources conservation, and green building technologies. Policy H-6.2 ensures that all new residential development meets or exceeds the standards contained in Title 24, Part 6 of the California Code of Regulations.

<sup>32</sup> Energy use was estimated using CalEEMod for mid-rise apartments, condo/townhomes, and single-family housing in Sonoma County; see Appendix A.

<sup>33</sup> VMT was estimated using CalEEMod; see Appendix A.

<sup>34</sup> Operational Fuel Consumption was estimated using the ARB Emissions Factors model (EMFAC) Web Database Emissions for Sonoma County; see Appendix D.

<sup>35</sup> City of Cloverdale. 2014. City of Cloverdale General Plan, Housing Element. December 10. Website: <http://www.cloverdale.net/index.aspx?NID=243>. Accessed June 5, 2019.

Additionally, the City's subdivision regulations require that residential projects be reviewed to ensure that buildings maximize solar access and energy conservation in terms of building orientation, street layout, lot design, landscaping, and street tree configuration. The project would be required to comply with this policy and regulation. The Housing Element also contains the following voluntary policies that promote energy conservation. Policy H-6.1 encourages the reduction of energy use and the conservation of natural resources in the development of housing through implementation of the State Energy Conservation Standards. Policy H-6.3 encourages a development pattern that helps reduce vehicle miles traveled and promotes transit ridership as well as pedestrian and bicycle access.

The Conservation, Design, and Open Space Element of the City of Cloverdale General Plan also contains goals and policies related to renewable energy and energy efficiency.<sup>36</sup> Goal CDO 8 promotes the conservation of energy by encouraging alternative energy, solar power, and green building techniques. Policy CDO 8-2 requires the use of energy and resource efficient methods in private construction. The project would be required to comply with this policy.

The Cloverdale Municipal Code contains ordinances related to renewable energy and energy efficiency.<sup>37</sup> Chapters 15.10 and 15.17, respectively, adopt the California Energy Code as set forth in Part 6 of Title 24 of the California Code of Regulations, and the California Green Building Standards Code (CALGreen) as set forth in Part 11 of Title 24 of the California Code of Regulations. The project would be required to comply with these standards. Chapter 15.38 of the Cloverdale Municipal Code promotes timely and cost-effective installations of small residential rooftop solar energy systems by establishing an expedited, streamlined solar permitting process, in accordance with the provisions of Section 65850.5 of the Government Code and applicable requirements of the Solar Rights Act of 1978 (as amended). Ordinance 18.09.240 is intended to implement adopted federal, state and local policies and to promote the use of solar energy by providing for the installation and construction of solar energy systems subject to reasonable conditions that will protect the public health, safety and welfare. The project would be required to comply with this ordinance and include solar panels as a renewable energy source that would generate approximately 500,000 kWh/year.

The Sonoma County Regional CAP was adopted in July 2016, but subsequently lost in a court case.<sup>38</sup> On January 9, 2018, the City Council of the City of Cloverdale adopted Resolution No. 001-2018, which includes goals and local implementation measures as identified in the Sonoma County Regional CAP.<sup>39</sup> Goals relevant to this project include increasing building energy efficiency, increasing renewable energy use, switching equipment from fossil fuel to electricity, reducing travel demand through focused growth, encouraging a shift toward low-carbon transportation options, increasing vehicle and equipment fuel efficiency, encouraging a shift toward low-carbon fuels in vehicles and equipment, reducing idling, and increasing use of renewable energy in water and wastewater systems. The City of Cloverdale adopted measures at the State, regional, and local level to support

<sup>36</sup> City of Cloverdale. 2009. City of Cloverdale General Plan, Conservation, Design, and Open Space Element. May 13. Website: <http://www.cloverdale.net/index.aspx?NID=243>. Accessed June 5, 2019.

<sup>37</sup> City of Cloverdale. 2019. Cloverdale Municipal Code. Website: <https://www.codepublishing.com/CA/Cloverdale/>. Accessed June 5, 2019.

<sup>38</sup> The Sonoma County Regional Climate Protection Authority (RCPA). 2016. Climate Action 2020 and Beyond, Sonoma County Regional Climate Action Plan. July. Website: <https://rcpa.ca.gov/projects/climate-action-2020/>. Accessed June 5, 2019.

<sup>39</sup> City of Cloverdale. 2018. Resolution No. 001-2018. January. Website: <https://www.cloverdale.net/DocumentCenter/View/2352>. Accessed May 8, 2019.

the regional GHG emissions reduction target of 25 percent below 1990 countywide emissions by 2020. Several of these measures are relevant to energy conservation for this project, including:

- **Measure 1-S1:** Title 24 Standards for Commercial and Residential Buildings,
- **Measure 1-S2:** Lighting Efficiency and Toxics Reduction Act (AB 1109),
- **Measure 2-S1:** Renewables Portfolio Standard, Measure 2-S2: Solar Water Heaters,
- **Measure 2-R1:** Community Choice Aggregation,
- **Measure 5-R4:** Trip Reduction Ordinance,
- **Measure 6-S1:** Pavley Emissions Standards for Passenger Vehicles and the Low Carbon Fuel Standard,
- **Measure 6-S3:** AB 32 Vehicle Efficiency Measures,
- **Measure 7-S1:** Low Carbon Fuel Standard: Off-Road,
- **Measure 1-L3:** Shade Tree Planting,
- **Measure 4-L1:** Mixed-Use Development in City Centers and Along Transit Corridors,
- **Measure 4-L2:** Increase Transit Accessibility,
- **Measure 4-L3:** Supporting Land Use Measures,
- **Measure 4-L4:** Affordable Housing Linked to Transit,
- **Measure 5-L4:** Supporting Bicycle/Pedestrian Measures,
- **Measure 7-L1:** Electric Vehicle Charging Station Program,
- **Measure 7-L3:** Reduce Fossil Fuel Use in Equipment through Efficiency or Fuel Switching,
- **Measure 8-L1:** Idling Ordinance,
- **Measure 9-L1:** Create Construction and Demolition Reuse and Recycling Ordinance, and
- **Measure 14-L1:** Green Energy for Water Production and Wastewater Processing.

The project would be required to comply with these GHG emission reduction measures.

Additionally, California's Renewables Portfolio Standard (RPS) requires that 33 percent of electricity retail sales be served by renewable energy sources by 2020. As mentioned above, PG&E would provide delivery of electricity to the project through the existing grid, while Sonoma Clean Power would provide the electric generation service. Sonoma Clean Power's power mix as of 2016 includes 49 percent large hydroelectric, 42 percent renewable, and 10 percent unspecified sources of power. Sonoma Clean Power's renewable energy resource mix is comprised of 31 percent wind, 8 percent geothermal, and 2 percent eligible hydroelectric. Sonoma Clean Power offers a default CleanStart service with electricity that is 90 percent carbon-free, as well as an EverGreen option for 100 percent

local renewable service.<sup>40</sup> SB 32 mandates a Statewide GHG emissions reduction goal to 40 percent below 1990 levels by the year 2030. Sonoma Clean Power's current power mix already exceeds State requirements. Therefore, the project would receive electricity from a utility company that would meet California's RPS requirements. Furthermore, the project would include the addition of solar panels that are collectively anticipated to produce approximately 500,000 kWh/year of renewable energy in addition to bicycle parking amenities and walkable design features. The project would comply with the State's energy efficiency standards and with all mandatory policies, ordinances, and measures of the City's General Plan, the City's Municipal Code, and Resolution No. 001-2018. Therefore, the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency and operational energy impacts would be less than significant.

## Mitigation Measures

None.

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<sup>40</sup> Sonoma Clean Power. 2019. About Us. Website: <https://sonomacleanpower.org/our-vision>. Accessed June 5, 2019.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>7. Geology and Soils</b> <i>Would the project:</i>				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

The analysis in this section is based in part on a Geotechnical Engineering Investigation prepared by Krazan & Associates, Inc. and a Paleontological Records Search prepared by Consulting Paleontologist, Kenneth L. Finger, PhD. These reports are provided in Appendix E of this IS/MND.

The project site is located in the northernmost portion of Sonoma County, in Northern California. Northern California is known for having strong seismic activity because of the San Andreas Fault and its many sub-faults. According to the California Department of Conservation Geological Survey

Regulatory Mapping System, the project site is not located in an Alquist-Priolo Earthquake Fault Zone. The closest Alquist-Priolo Earthquake Fault Zone is the Maacama Fault Zone, which is located approximately 4.5 miles east of the project site.<sup>41</sup> The Maacama Fault system is connected to the San Andreas Fault via the Roger-Creek-Healdsburg, Hayward, and Calaveras Faults to the south of the fault zone. The General Plan EIR identifies the possibility of strong seismic ground shaking as a potentially significant impact in the City of Cloverdale. The General Plan contains various policies that are intended to mitigate impacts related to seismic ground shaking.

These policies include, but are not limited to the following:

- **PS 1-1:** Geologic Reports shall be required for all new development and redevelopment projects in areas with identified geologic hazards.
- **PS 1-2:** Utilize studies of geologic hazards prepared during the development review process.
- **PS 1-3:** New development is required to incorporate sound soil conservation practices and keep land grading to a minimum.
- **PS 1-6:** Requires dynamic analysis of structural response to earthquake forces prior to approval of building permits.

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.**

**No impact.** As described previously, the project site is not located on or within a designated Alquist-Priolo Earthquake Fault Zone as issued by the California Department of Conservation. The nearest faults to the project are the Healdsburg, Maacama, and Rodgers Creek Faults. None of these faults run through the project site and the closest Alquist-Priolo Earthquake Fault Zone is the Maacama Fault Zone approximately 4.5 miles east of the project site. This distance precludes the possibility exposure to fault rupture. Therefore, no impacts would occur.

- ii) **Strong seismic ground shaking?**

**Less than significant impact with mitigation incorporated.** The project site could experience seismic ground shaking similar to other parts of the Bay Area. Strong seismic ground shaking from the Healdsburg, Maacama, and Rodgers Creek Faults could result in structural failure and collapse of structures or cause non-structural building elements to fall, presenting a hazard to building occupants, a potentially significant impact.

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<sup>41</sup> Sonoma County. Sonoma County Hazard Mitigation Plan, Figure 8.1: Major Earthquake Fault Zones and Areas of Liquefaction. 2001



The project would be subject to the most recent CBC requirements for reducing seismic hazards consistent with Cloverdale Municipal Code Chapter 15.05 and Section 18.09.040 Hillside Protection. In addition, implementation of MM GEO-1 would ensure project design and construction plans include recommendations contained in the Geotechnical Engineering Investigation prepared for this project. These recommendations include details on proper excavation methods and fill material, replacement soil requirements, slab-on-grade requirements, cut and fill of slope, project footing design, and seismic design of structures based on seismic provisions of the most recent CBC. Therefore, implementation of MM GEO-1 would reduce project impacts to a less than significant level.

**iii) Seismic-related ground failure, including liquefaction?**

**Less than significant impact with mitigation incorporated.** Seismic-related ground failure most commonly occurs in areas underlain by loose, unconsolidated soils (e.g., sandy soils) and high groundwater levels. Liquefaction is a process by which water-saturated sediment temporarily loses strength and acts as a fluid. Areas of high potential for liquefaction include areas near bodies of water such as a stream, river, lake or ocean. The nearest body of water to the project site is the Russian River, which is located approximately 0.96 mile east of the project site. Soils on-site consist primarily of firm to very stiff, silty clays and sandy clays or medium dense to very dense clayey sands and weather rock.<sup>42</sup>

Groundwater was encountered at depths of 6 to 24 feet on-site, but the project area has a historically high groundwater elevation of 3 feet based on three wells located within the vicinity of the project site.<sup>43</sup> Overall, based on these factors, liquefaction potential due to seismic-related ground failure is considered very low at the project site.

Although liquefaction potential is considered low, liquefiable soils could be encountered on the project site in areas that were not evaluated in the Geotechnical Engineering Investigation. Implementation of MM GEO-1 would require that all recommendations included in the Geotechnical Engineering Investigation are included in project grading and construction plans including the removal of all soils during excavation and site preparation that would be replaced with engineered fill according to the recommendations included in the Geotechnical Engineering Investigation. Therefore, impacts would be less than significant with mitigation incorporated.

**iv) Landslides?**

**Less than significant impact with mitigation incorporated.** Landslides generally occur on relatively steep slopes and/or on slopes underlain by weak sediments. The south and western third of the project site contains hillside oak woodlands with steep slopes that range up to 500 above MSL. The central and eastern portions of the project site contain flat, level, and undeveloped land at approximately 340 feet above MSL. The project site is not located on a site where landslides have previously occurred.<sup>44</sup>

<sup>42</sup> Krazan & Associates, Inc. Geotechnical Engineering Investigation. Page 8. December 5, 2017.

<sup>43</sup> Ibid.

<sup>44</sup> California Department of Conservation, Geologic Survey. Landslide Inventory. Website: <https://maps.conservation.ca.gov/cgs/lis/app/>. Accessed March 27, 2019.

As shown in the project site plan (Exhibit 6), the project would construct single-family homes in the central portion of the site. The single-family homes would be constructed on relatively flat ground but would be located adjacent to the hillsides in the western portion of the site, which slope up to 500 feet above MSL. In addition, construction of these homes may require grading of the hillside slopes below the 400-foot elevation line. Although the potential for landslides is low, these hillsides could be susceptible to ground failure during a seismic event, which constitutes a potentially significant impact. Implementation of MM GEO-1 requires that all recommendations in the Geotechnical Engineering Investigation be included in project design and plans including the requirement that any grading below the 400-foot elevation line incorporate cut and fill slopes of 2:1 (horizontal to vertical) or flatter, or the use of retaining walls. With the implementation of MM GEO-1, impacts related to the potential for landslides would be less than significant.

**b) Result in substantial soil erosion or the loss of topsoil?**

**Less than significant impact.** Project construction would include clearing, grading, excavation, and other earthmoving activities. These activities would expose surface soils to wind and precipitation, which could lead to soil erosion. Projects that disturb 1 or more acres of soil are required to obtain the General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit), issued by the California State Water Resources Control Board (State Water Board). The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list BMPs the project will implement to control erosion and prevent the conveyance of sediments off-site. Implementation of the conditions of the Construction General Permit would reduce erosion impacts resulting from project construction to less than significant levels.

Once construction work is completed, the project's impervious surfaces and landscaping would minimize potential erosion risks. Cloverdale Municipal Code Chapter 16.10, Storm Water, contains requirements for new development and redevelopment projects to minimize pollutants in stormwater runoff. These requirements include BMPs—such as erosion control.

Overall, compliance with the applicable provisions of the Construction General Permit and the City of Cloverdale Municipal Code would ensure that impacts would be less than significant.

**c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

**Less than significant with mitigation incorporated.** As discussed under Impacts 7(a) (i), (ii), (iii), and (iv), the project could experience liquefaction or landslides due to seismic shaking from regional faults or improperly graded slopes. Implementation of MM GEO-1 would ensure that all recommendations from the Geotechnical Engineering Investigation are included in the project design and plans, and that the project adheres to the most recent edition of the CBC. As such, implementation of MM GEO-1 would reduce potential impacts to less than significant.

- 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?**

**Less than significant impact with mitigation incorporated.** Soils located on the project site include Laughlin loam, Sobrante loam, and Josephine loam. According to the Geotechnical Engineering Investigation, these soils are considered to be moderately strong and slightly compressible. In addition, these soils have the potential to shrink and swell (expansive qualities) as they gain moisture, which could cause building foundations to crack or heave resulting in substantial risks to life or property. This would represent a potentially significant impact related to expansive soil risks.

The project would implement MM GEO-1, which would ensure recommendations contained in the Geotechnical Engineering Investigation are included in the project construction design including replacement soil requirements that would ensure all expansive soils on-site are replaced with engineered fill. Therefore, impacts related to expansive soils would be less than significant with mitigation.

- 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?**

**No impact.** The project does not propose the use of septic tanks on-site. The project would connect to the City's wastewater connection and would comply with wastewater requirements outlined in Section 18, Utilities, of this IS/MND. As such, no impacts would occur.

- f) **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**Less than significant with mitigation incorporated.** The project site is located mostly on Quaternary alluvium (Qal) soil formations, and could also contain Pleistocene formations. The southwest end of the site is on Franciscan sandstone of Late Cretaceous age (Kfss) which likely extends into the subsurface subjacent to the alluvium. In addition, as indicated in the Paleontological Records Search, within the surrounding 0.5-mile search area of the project site are older sedimentary rocks of the Great Valley Complex (KJgvs) and metamorphic blocks of greenstone (gs), and serpentinite (sp). Only the three sedimentary units (Qal, Kfss, KJgvs) on the project site have the potential of containing fossils.<sup>45</sup>

Paleontological monitoring of the site is not recommended due to the age of on-site formations and the presence of only one vertebrae specimen recovered within 25 miles of the project site.<sup>46</sup> Although unlikely, paleontological resources could be discovered during subsurface excavation of the project site; a potentially significant impact. MM GEO-2 would ensure a professional paleontologist would educate construction crews on how to identify fossils and the correct procedure to follow if paleontological resources are found. Therefore, impacts would be less than significant with mitigation incorporated.

<sup>45</sup> Finger, Kenneth L., PhD., Consulting Paleontologist. Paleontological Records Search: Baumgardner Ranch Development Project. Page 1. March 18, 2019.

<sup>46</sup> Finger, Kenneth L., PhD., Consulting Paleontologist. Paleontological Records Search: Baumgardner Ranch Development Project. Page 2. March 18, 2019.

## Mitigation Measures

- MM GEO-1** Prior to issuance of building permits, the project applicant shall incorporate all recommendations from the Geotechnical Engineering Investigation into project plans. In addition, the project applicant shall submit plans to the City of Cloverdale for review and approval demonstrating project compliance with the latest adopted edition of the California Building Standards Code (CBC) seismic requirements and the recommendations of the Geotechnical Engineering Investigation. All soil engineering recommendations and structural foundations shall be designed by a licensed Professional Engineer. The approved plans shall be incorporated into the project. All on-site soil engineering activities shall be conducted under the supervision of a licensed Geotechnical Engineer or Certified Engineering Geologist.
- MM GEO-2** Prior to issuance of grading and construction permits, the City shall ensure a professional Paleontologist has trained the construction on how to determine the presence of fossils and the procedure to follow in the event paleontological resources are discovered.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>8. Greenhouse Gas Emissions</b> <i>Would the project:</i>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

This section evaluates the possible impacts related to GHG emissions that could result from construction and operation of the project. Information included in this section is based on project-specific GHG emissions modeling results utilizing CalEEMod, Version 2016.3.2. The modeling data is provided in its entirety in Appendix A.

### Greenhouse Gas Emissions

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. There have been significant legislative and regulatory activities that directly and indirectly affect climate change and GHG emissions in California. The primary climate change legislation in California is AB 32, the California Global Warming Solutions Act of 2006, and SB 32, focusing on reducing GHG emissions in California. The project would generate a variety of GHG emissions during construction and operation, including several defined by AB 32 such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O).

To describe how much global warming a given type and amount of GHG emissions may cause, the CO<sub>2</sub> equivalent (CO<sub>2</sub>e) is used. The calculation of the CO<sub>2</sub> equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO<sub>2</sub>. For example, CH<sub>4</sub>'s warming potential of 25 indicates that CH<sub>4</sub> has 25 times greater warming effect than CO<sub>2</sub> on a molecule-per-molecule basis. A CO<sub>2</sub> equivalent is the mass emissions of an individual GHG multiplied by its global warming potential.

Would the project:

- a) **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**Less than significant impact with mitigation incorporated.** The project is located in the North Coast Air Basin, where air quality and GHG emissions are regulated by the NoSoCoAir. However, the NoSoCoAir does not have any rules, regulations, or evaluation policies that pertain to GHG

emissions. As such, NoSoCoAir relies on methods used in the neighboring San Francisco Bay Area Air Basin, which is regulated by the BAAQMD. The BAAQMD project-level significance thresholds were deemed appropriate to use when determining the project's potential GHG impacts. 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 the BAAQMD for project-level operational GHG emissions generation are as follows:

- Compliance with a qualified GHG Reduction Strategy;
- Emits no more than 1,100 metric ton (MT) CO<sub>2</sub>e/year; or
- Emits no more than 4.6 metric tons of CO<sub>2</sub>e per service population (employees plus residents) per year or 2.6 MT CO<sub>2</sub>e per service population (for 2030).

It should be noted that the BAAQMD thresholds of significance was established based on meeting the GHG emission targets set forth in the AB 32 and SB 32 Scoping Plans. For developments that would occur beyond 2020, the service population threshold of significance was adjusted to a "substantial progress" threshold that was calculated based on the SB 32 target of 40 percent below 1990 levels and the forecasted 2030 service population.<sup>47</sup> The estimated annual emissions for the project were compared with the 4.6 MT CO<sub>2</sub>e/service population/year threshold for 2020 and 2.6 MT CO<sub>2</sub>e/service population/year threshold for 2030 to determine significance for this criterion.

## Construction

The project would generate GHG emissions during construction activities such as site grading, on-site heavy-duty construction vehicle use, vehicles hauling materials to and from the project site, and construction worker trips. These emissions are considered temporary or short-term.

The BAAQMD does not have a recommended screening level or a threshold of significance for construction-related GHG emissions; however, the BAAQMD does recommend that lead agencies quantify and disclose construction-related GHG emissions. Therefore, additional analysis quantifying and disclosing construction-related GHG emissions was completed.

CalEEMod 2016.3.2 was used to estimate the project's construction-generated GHG emissions. The construction period is anticipated to begin as early as March 2020, with full buildout completed in May 2026. The construction activities include demolition, site preparation, grading, building construction, paving, and architectural coating. Construction assumptions used to estimate GHG emissions are consistent with those used to estimate air quality emissions and are summarized in Section 3, Air Quality, of this IS/MND. Detailed construction assumptions and parameters are provided in Appendix A. GHG emissions during project construction by year are presented in Table 15.

<sup>47</sup> Association of Environmental Professionals (AEP). Final White Paper Beyond 2020 and 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](https://www.califaep.org/images/climate-change/AEP-2016_Final_White_Paper.pdf). Accessed December 20, 2018.



**Table 15: Estimated Construction-Related Greenhouse Gas Emissions (Unmitigated)**

Construction Year	Total GHG Emissions (MT CO <sub>2</sub> e/year)
Total 2020 Construction Emissions	309.9
Total 2021 Construction Emissions	341.3
Total 2022 Construction Emissions	453.7
Total 2023 Construction Emissions	557.7
Total 2024 Construction Emissions	447.4
Total 2025 Construction Emissions	211.9
Total 2026 Construction Emissions	49.2
<b>Total Construction Emissions</b>	<b>2,371.1</b>
<b>Emissions Amortized Over 30 Years<sup>1</sup></b>	<b>79.0</b>
Notes: MT CO <sub>2</sub> e = metric tons of carbon dioxide equivalent Unrounded emissions were used in calculations, including the reported total; therefore, totals may not appear to sum exactly due to rounding. <sup>1</sup> Construction GHG emissions are amortized over the 30-year lifetime of the project. Source: CalEEMod Output (Appendix A).	

As shown in Table 15, the project would emit approximately 2,371 MT CO<sub>2</sub>e during construction. In the absence of a construction emission threshold, the total emissions generated during construction were amortized based on the life of the development (30 years) and added to the operational emissions. The amortized emissions from construction were added to the operational emissions to determine the total emissions of the project. These total project emissions were analyzed against the BAAQMD efficiency threshold of 4.6 MT CO<sub>2</sub>e/service population/year to make a significance finding for the project's total generation of GHG emissions.

## Operation

Operational or long-term emissions occur over the life of the project. The major sources for operational GHG 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. Sonoma Clean Power is the official electricity provider in Sonoma County, providing an alternative to PG&E. PG&E is a utility providing electricity and natural gas service to Sonoma County. CalEEMod does not contain Sonoma Clean Power as an option for energy providers. Therefore, GHG emissions from energy consumption were calculated using PG&E's energy intensity factors for CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub>.

- **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.

Full assumptions and detailed modeling results are provided in Appendix A of this IS/MND. Operational GHG emissions by source are shown in Table 16. Long-term annual emissions at project buildout (including amortized construction emissions) were estimated at 3,222.8 MT CO<sub>2</sub>e for the 2022 operational year. The project is expected to accommodate 845 new residents<sup>48</sup> and seven employees, resulting in a service population of 852. The estimated total annual project-generation emissions, including operational emissions and amortized construction emissions, were compared with the efficiency threshold of 4.6 MT CO<sub>2</sub>e/service population/year to determine significance at project buildout in the year 2022. The estimated total annual GHG emissions generated by the project in the year 2030 were also compared with the projected 2030 efficiency threshold of 2.6 MT CO<sub>2</sub>e/service population/year.

**Table 16: Unmitigated Operational Greenhouse Gas Emissions (2022)**

Emission Source	Year 2022 Total Emissions (MT CO <sub>2</sub> e per year)	Year 2030 Total Emissions (MT CO <sub>2</sub> e per year)
Area	136.7	136.7
Energy	471.9	410.3
Mobile	2,497.4	2,008.4
Waste	89.0	89.0
Water	48.8	41.9
Amortized Construction Emissions	79.0	79.0
<i>Total Project Emissions</i>	<i>3,322.8</i>	<i>2,765.3</i>
Service Population (Employees + Residents)	852	852
<b>Project Emission Generation (MT CO<sub>2</sub>e/service population/year)</b>	<b>3.9</b>	<b>3.2</b>
<b>BAAQMD 2017 Threshold (MT CO<sub>2</sub>e/service population/year)</b>	<b>4.6</b>	<b>2.6<sup>1</sup></b>
<b>Does Project exceed threshold?</b>	<b>No</b>	<b>Yes</b>
Notes: MT CO <sub>2</sub> e = metric tons of carbon dioxide equivalent. Unrounded results used to calculate totals. <sup>1</sup> Adjusted threshold to account for 2017 Scoping Plan Update 40% Reduction Goal by 2030. Source of Emissions: CalEEMod Output (Appendix A)		

<sup>48</sup> Calculation: 305 housing units x 2.77 persons/household = 845. Though the project would develop 304 instead of 305 units, 305 housing units was used as a conservative estimate.

As shown in Table 16, the project would generate approximately 3.8 MT CO<sub>2</sub>e per service person per year in the year 2022 and 3.2 MT CO<sub>2</sub>e per service person per year in the year 2030. Therefore, the project would not exceed the BAAQMD threshold of 4.6 MT CO<sub>2</sub>e/service population/year in 2022; however, the project would exceed the projected efficiency threshold of 2.6 MT CO<sub>2</sub>e/service population/year in the 2030 operational year, which represents a potentially significant impact.

To address the potentially significant impact, mitigation would be required to reduce the project's estimated generation of GHG emissions. To meet the efficiency threshold of 2.6 MT CO<sub>2</sub>e/service population/year in the 2030 operational year, the project would be required to reduce GHG emissions by 551 MT CO<sub>2</sub>e per year. MM GHG-1 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 551 MT CO<sub>2</sub>e per year over the lifetime of the project (or a reduced amount estimated based on inclusions of other feasible mitigation measures). There are several options available to mitigate project emissions to reduce the amount of offsets that the project would be required to purchase. For instance, the project could achieve the equivalent of net zero electricity use through a combination of on-site generation and the purchase of renewable electricity from the utility provider. The GHG emissions estimates presented in Table 16 assumes the project would generate on-site renewable energy totaling 500,000 kWh/year through the inclusion of solar panels. Achieving net zero electricity use equivalence would reduce emissions by 182 MT CO<sub>2</sub>e in the 2030 operational year. MM GHG-1 requires the project to implement feasible mitigation measures to reduce GHG emissions to a less-than-significant level.

With implementation of MM GHG-1, the project would not generate GHG emissions that would exceed the applicable thresholds. Therefore, the project would not result in a significant generation of GHG emissions after incorporation of mitigation.

**b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

**Less than significant impact.** In July 2016, the Regional Climate Protection Authority (RCPA) adopted the Sonoma County Regional Climate Action Plan (CAP), also known as Climate Action 2020 and Beyond, which applied to the County, including the City of Cloverdale. However, the EIR for the Sonoma County Regional CAP was invalidated in 2017.<sup>49</sup> The City of Cloverdale adopted the goals of the Sonoma County Regional CAP on January 9, 2018.<sup>50</sup> Through the adoption of Resolution No. 001-2018, the City of Cloverdale also reaffirmed its intent to implement climate protection measures for the City of Cloverdale from the Sonoma County Regional CAP.

The Sonoma County Regional CAP focuses on relatively short-term actions to reduce emissions by 25 percent below 1990 levels by 2020 to a degree that is beyond current State mandate (AB 32). Section 5.1 of the Sonoma County Regional CAP includes the community GHG emissions profile specific to Cloverdale and the measures that the City of Cloverdale intended to implement as part of

<sup>49</sup> Sierra Club. 2017. Court Ruling Demands Strengthening of Sonoma County Climate Action Plan. Website: <https://www.sierraclub.org/redwood/sonoma/blog/2017/07/court-ruling-demands-strengthening-sonoma-county-climate-action-plan>. Accessed June 3, 2019.

<sup>50</sup> City of Cloverdale. 2018. Resolution No. 001-2018. Website: <https://www.cloverdale.net/DocumentCenter/View/2352>. Accessed May 8, 2019.

the regional approach to reducing GHG emissions. As previously discussed, the City reaffirmed its intent to implement the climate protection measures developed for the City of Cloverdale in the Sonoma County Regional CAP. Several of the measures focus on reducing GHG emissions at the regional level through municipal actions. Mandatory measures that would be applicable to the project are enforced locally by the City of Cloverdale the building permit review process.

The State of California has adopted regulations that apply to the project that will help the County achieve its reduction goal. The project would be subject to Title 24 energy efficiency standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The project would comply with CALGreen, which includes requirements to increase recycling, reduce waste, reduce water use, increase bicycle use, and other measures that will reduce GHG emissions. Motor vehicle emissions associated with the project would be reduced through compliance with state regulations on fuel efficiency and fuel carbon content. The regulations include the Pavley fuel efficiency standards that require manufacturers to meet increasing stringent fuel mileage rates for vehicles sold in California and the Low Carbon Fuel Standard that requires reductions in the average carbon content of motor vehicle fuels.

Emissions related to electricity consumption by the project would be reduced as Sonoma Clean Power (the utility that would provide electricity to the project site) complies with the Renewable Portfolio Standard, which requires utilities to increase its mix of renewable energy sources to 33 percent by 2020. The project would not conflict with the Sonoma County Regional CAP and regulations adopted by the State of California to reduce GHG emissions. In addition, the project would comply with all mandatory local and regional measures applicable to the project.

Because AB 32 and the goals adopted by the City of Cloverdale are based on a GHG emission reduction goal for the year 2020, the project is also assessed for consistency with the ARB adopted 2017 Climate Change Scoping Plan Update to address GHG emission impacts beyond 2020.

The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. Table 17 provides an analysis of the project's consistency with the 2017 Scoping Plan Update measures. As shown in Table 17 many of the measures are not applicable to the project, while the project is consistent with strategies that are applicable.

**Table 17: Consistency with SB 32 2017 Scoping Plan Update**

2017 Scoping Plan Update Reduction Measure	Project Consistency
<b>SB 350: 50 Percent Renewable Mandate.</b> Utilities subject to the legislation will be required to increase their renewable energy mix from 33 percent in 2020 to 50 percent in 2030.	<b>Not applicable.</b> This measure would apply to utilities and not to individual development projects. The project would purchase electricity from a utility subject to the SB 350 Renewable Mandate.
<b>SB 350: Double Building Energy Efficiency by 2030.</b> This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels.	<b>Not applicable.</b> This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency over time. The project would comply with the applicable Title 24 Energy Efficiency Standards in effect at the time building permits are received.

**Table 17 (cont.): Consistency with SB 32 2017 Scoping Plan Update**

2017 Scoping Plan Update Reduction Measure	Project Consistency
<b>Low Carbon Fuel Standard.</b> This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	<b>Not applicable.</b> This is a Statewide measure that cannot be implemented by a project applicant or lead agency. However, vehicles accessing the proposed residential buildings at the project site would benefit from the standards.
<b>Mobile Source Strategy (Cleaner Technology and Fuels Scenario).</b> 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.	<b>Not applicable.</b> This measure is not applicable to the project; however, vehicles accessing the apartment buildings at the project site would benefit from the increased availability of cleaner technology and fuels. Future residents and visitors can be expected to purchase increasing numbers of more fuel-efficient and zero emission cars and trucks each year. Furthermore, delivery trucks and buses that would serve future residents will be made by increasing numbers of ZEV delivery trucks.
<b>Sustainable Freight Action Plan</b> 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.	<b>Not applicable.</b> This measure applies to owners and operators of trucks and freight operations. The project is residential in nature and would not support substantial 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 residents.
<b>Short-lived Climate Pollutant (SLCP) Reduction Strategy.</b> 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.	<b>Consistent.</b> As described Section 3, Air Quality, of this IS/MND, no wood-burning devices are proposed as part of the project. Natural gas hearths produce very little black carbon compared to wood-burning fireplace; therefore, the project would not include major sources of black carbon.
<b>SB 375 Sustainable Communities Strategies.</b> Requires Regional Transportation Plans to include a Sustainable Communities Strategy (SCS) for reduction of per capita vehicle miles traveled.	<b>Not applicable.</b> The project does not include the development of a Regional Transportation Plan. Furthermore, the project is not within an SCS priority area.
<b>Post-2020 Cap-and-Trade Program.</b> 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.	<b>Not applicable.</b> The project is not one targeted by the cap-and-trade system regulations, and, therefore, this measure does not apply to the project. However, the post-2020 Cap-and-Trade Program indirectly affects people and entities who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers.
<b>Natural and Working Lands Action Plan.</b> 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	<b>Not applicable.</b> The project is residential development in a built-up urban area and would not be considered natural or working lands.

**Table 17 (cont.): Consistency with SB 32 2017 Scoping Plan Update**

2017 Scoping Plan Update Reduction Measure	Project Consistency
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.	
Source of ARB 2017 Scoping Plan Update Reduction Measures: ARB 2017.	

As shown in Table 17, implementation of the project would not conflict with the reduction measures proposed in SB 32. In addition, project would not conflict with the Sonoma County Regional CAP. The project would comply with all mandatory local and regional measures applicable to the project. Therefore, the project would not conflict with any applicable plan, policy, or regulation adopted to reduce GHG emissions. The impact would be less than significant.

## Mitigation Measures

The recommended mitigation measures listed below shall be implemented in addition to all project design features.

### MM GHG-1 Implement Potentially Feasible Mitigation Measures

Prior to the issuance of the certificate of occupancy, the project applicant shall provide documentation to the City of Cloverdale that the project would achieve additional annual greenhouse gas (GHG) emission reductions of 0 MT CO<sub>2</sub>e per year in 2022 increasing to 551 metric ton (MT) carbon dioxide equivalent (CO<sub>2</sub>e) per year in 2030, based on current estimates of the project-related GHG emissions, through any combination of the following measures or other measures approved by the City:

- Commit to purchasing electricity from a utility offering 100 percent renewable power for some or all of the project's power needs.
- Install on-site charging units for electric vehicles consistent with parking requirements in CALGreen Section 5.106.5.2.
- Purchase voluntary carbon credits from a verified GHG emissions credit broker in an amount sufficient to offset operational GHG emissions of approximately 551 MT CO<sub>2</sub>e per year over the lifetime of the project (or a reduced amount estimated based on implementation of other measures listed above). Copies of the contract(s) shall be provided to the City planning department.



Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>9. Hazards and Hazardous Materials</b> <i>Would the project:</i>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

Hazards analyzed in this section include hazardous materials, wildfires, and hazards based on proximity to airport and airstrip operations. Hazardous materials, as defined by the California Code of Regulations, are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped into the following four categories, based on their properties:

- Toxic—causes human health effects
- Ignitable—has the ability to burn

- Corrosive—causes severe burns or damage to materials
- Reactive—causes explosions or generates toxic gases

A hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. The criteria that define a material as hazardous also define a waste as hazardous. If improperly handled, 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. California Code of Regulations, Title 22, Sections 66261.20–24 contain technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

The following information is based on the Phase I Environmental Site Assessment (Phase I ESA) Report and Phase II Limited Subsurface Assessment prepared by Krazan & Associates, Inc. The complete reports are provided in Appendix F.

## **Phase I Environmental Site Assessment**

### ***Recognized Environmental Conditions***

The Phase I ESA determined there is evidence of recognized environmental conditions (RECs) (including two Leaking Underground Storage Tanks (LUSTs) associated with a property at 28181 Redwood Highway and two additional LUSTs located at the Renner Petroleum fueling, all located to the north of the on-site gravel driveway in the far eastern portion of the project site). Given the reported very shallow depth to groundwater coupled with the location of these former Underground Storage Tanks (USTs) hydraulically upgradient of the far eastern portion of the project site and approximately 105 feet distant at minimum, the potential exists for release(s) from these former USTs to have migrated downgradient with groundwater flow and impacted the subsurface of the far eastern portion of the subject site property.

### ***Potential Areas of Concern***

Based on the timeframe in which the project site was agriculturally cultivated and the reported presence of imported orchard soil, the potential exists that environmentally persistent pesticides and/or herbicides were historically applied to the crops located on the project site and/or to the imported orchard soil reportedly located on-site. Consequently, given the potential use of environmentally persistent pesticides/herbicides, the agricultural use of the project site for an extended period of time, the presence of imported orchard soil, and the planned redevelopment of the project site for residential purposes, the Phase I ESA determined that assessment of surficial soils for residues of environmentally persistent pesticides/herbicides was considered to be prudent.

### ***Site Development Issues***

During the Krazan & Associates, Inc. site reconnaissance, a water well no longer in use was observed in the southeastern portion of the subject site, and a representative of the project site owner, Mr. Baumgardner, stated that the dwelling located in the western portion of the project site is connected to an adjacent on-site septic system. Additionally, Mr. Baumgardner stated that an agricultural water well was previously located in the central-southern portion of the subject site 75 feet to the north of

the tractor shed. Mr. Baumgardner stated that this agricultural water well was a hand-dug well, and that it has since been filled with gravel/sand/soil such that its former location is no longer discernable.

### ***Asbestos Containing Materials and Lead Based Paint***

Because the dwelling located on the project site was originally constructed in 1960 or 1961, the building could contain asbestos containing materials or lead based paint.

### **Phase II Limited Subsurface Assessment**

A Phase II Limited Subsurface Assessment was conducted to assess the presence or absence of potentially elevated concentrations of organochlorine pesticides, chlorinated herbicides, and arsenic in shallow soils located on the 16-acre eastern portion of the project site that was historically utilized for agricultural cultivation. The Phase II Limited Subsurface Assessment assessed the presence or absence of significant concentrations of VOCs in soil vapor and also assessed the presence or absence of petroleum hydrocarbon constituents, VOCs, and lead in groundwater beneath the project site, which is adjacent to the south of the previously referenced LUST sites.

### ***Shallow Soil***

Based upon the findings in the field and the laboratory analytical reports for the soil samples collected and analyzed from the subject site during the Phase II Limited Subsurface Assessment, no evidence of a known significant impact (based on a comparison with established regulatory screening levels) was identified with respect to concentrations of organochlorine pesticides, chlorinated herbicides, or arsenic in shallow on-site soils within the fallow agricultural portion of the project site associated with the historical use of the site for agricultural purposes.

### ***Soil Vapor***

Based upon the findings in the field and the laboratory analytical reports for the soil vapor samples, no evidence of a known significant impact (based on a comparison with established regulatory screening levels) was identified with respect to concentrations of VOCs in shallow soil vapor in the area of the proposed residential buildings. Elevated concentrations of benzene and chloroform were reported in shallow soil vapor beneath the easternmost portion of the subject site property along the gravel driveway; however, habitable structures are not proposed within this portion of the project site and the reported elevated concentrations do not appear to have migrated horizontally toward the area of the proposed residential buildings.

### ***Groundwater***

Elevated concentrations of lead were reported in groundwater samples, and the potential/origin of the lead in the groundwater samples is unknown. However, as noted in the Phase II Limited Subsurface Assessment, potable water would be provided from the City, and the project would not utilize groundwater for any purpose.

Would the project:

- a) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

**Less than significant impact with mitigation incorporated.** The Phase I ESA determined that given the age of the existing structures on the project site, it is possible that asbestos-containing materials and lead-based paint may exist within the structures. Removal of existing on-site buildings during construction could potentially create a significant hazard to the construction workers. This represents a potentially significant impact.

Implementation of MM HAZ-1 would require the project applicant to conduct asbestos and lead paint surveys prior to demolition activities and would also require that any hazardous materials are safely removed and disposed of in accordance with State standards. Implementation of HAZ-1 would ensure impacts are reduced to a less-than-significant level. Furthermore, the Phase II Limited Subsurface Assessment determined that there is no evidence on-site of any known significant subsurface environmental condition.

Residential development typically does not involve the regular use, storage, transport, or disposal of significant amounts of hazardous materials. However, project construction and operations would involve the minor routine transport and handling of minimal quantities of hazardous substances such as diesel fuels, lubricants, solvents, asphalt, pesticides, and fertilizers.

Handling and transportation of these materials could result in the exposure of workers or residents to hazardous materials. However, the project would not create a significant hazard to the public or the environment, because project construction and operations would comply with applicable federal, state, and local laws pertaining to the safe handling and transport of hazardous materials. In addition, the project does not propose commercial or industrial uses, such as gas stations or dry cleaners, that typically use or transport significant amounts of hazardous materials. Therefore, Impacts would be less than significant with the implementation of mitigation.

- b) **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

**Less than significant impact with mitigation incorporated.**

### **Construction**

As described in Impact 9(a), the project would involve the minor use of hazardous materials typically required during construction, such as diesel fuel and other motor lubricants. Contractors would comply with applicable federal, State, and local laws pertaining to the safe handling and transport of hazardous materials, which would minimize potential spill occurrences. Spills that may occur during construction activities would likely be minimal and potential adverse effects would be localized. Plans and specifications typically require contractors to clean up immediately any spills of hazardous materials. During project site preparation and construction, the project would require excavation.

Potential release of hazardous materials associated with excavation and demolition during construction is discussed below.

### ***Shallow Soil***

No evidence of a known significant impact was identified with respect to concentrations of organochlorine pesticides, chlorinated herbicides, and arsenic in shallow on-site soils associated with the historical use of the site for agricultural purposes and impacts would be less than significant.

### ***Soil Vapor***

Elevated concentrations of benzene and chloroform were reported in shallow soil vapor beneath the easternmost portion of the project site within the gravel driveway. Though no habitable structures would be developed on this portion of the site, construction workers could encounter contaminated soil vapor during construction in this area. MM HAZ-2 would require the use of a photo ionization detector (PID) to analyze levels of benzene and chloroform. If actionable concentrations of these compounds (as defined by the Sonoma County Department of Health Services—Environmental Health & Safety Division or other applicable regulatory body) are present, the project applicant would notify the BAAQMD and a construction worker health and safety plan would be prepared. With the implementation of MM HAZ-2, impacts would be less than significant.

### ***Groundwater***

Elevated concentrations of lead were reported in groundwater samples located within the gravel driveway, and the potential origin of the lead in the groundwater samples is unknown. Though potable water would be provided from the City, and the project would not utilize groundwater for any purpose, lead-contaminated groundwater could be encountered during construction, resulting in a potentially significant impact.

MM HAZ-2 requires that if groundwater is encountered on-site during construction in the vicinity of the gravel driveway, it must be tested to confirm the presence or absence of hazardous levels of lead (as defined by the Sonoma County Department of Health Services—Environmental Health & Safety Division or other applicable regulatory body). If actionable levels of lead are found in the groundwater, it shall be dewatered into a Baker Tank and disposed of in accordance with regulations set forth by the Sonoma County Department of Health Services—Environmental Health & Safety Division. In addition, a construction worker health and safety plan shall be prepared as described in MM HAZ-2.

### ***Asbestos Containing Materials and Lead Based Paint***

Also discussed under Impact 9(a), demolition of the existing structures could release asbestos and lead into the local environment, which would be a potentially significant impact. MM HAZ-1 would require removal of these materials prior to demolition in accordance with regulations applicable to the abatement of asbestos-containing materials and lead-based paint. Implementation of this measure would reduce potential impacts to less than significant.

### ***Operation***

Residential development typically does not involve the regular use, storage, transport, or disposal of significant amounts of hazardous materials. However, project construction and operations would

involve the minor routine transport and handling of minimal quantities of hazardous substances such as diesel fuels, lubricants, solvents, asphalt, pesticides, and fertilizers.

Handling and transportation of these materials could result in the exposure of workers or residents to hazardous materials. However, the project would not create a significant hazard to the public or the environment, because project construction and operations would comply with applicable federal, State, and local laws pertaining to the safe handling and transport of hazardous materials. In addition, the project does not propose commercial or industrial uses, such as gas stations or dry cleaners, that typically use or transport significant amounts of hazardous materials.

### ***Shallow Soil***

As described above, no evidence of a known significant impact was identified with respect to concentrations of organochlorine pesticides, chlorinated herbicides, and arsenic in shallow on-site soils associated with the historical use of the site for agricultural purposes and impacts would be less than significant.

### ***Soil Vapor***

Though there are elevated concentrations of benzene and chloroform reported in shallow soil vapor beneath the easternmost portion of the subject site, habitable structures are not proposed within this portion of the subject site property and impacts would be less than significant.

### ***Groundwater***

Elevated concentrations of lead were reported in groundwater samples, and the potential/origin of the lead in the groundwater samples is unknown. However, as noted in the Phase II Limited Subsurface Assessment, potable water would be provided from the City, and the project would not utilize groundwater for any purpose. Therefore, impacts would be less than significant.

### ***Site Development Issues***

The project site contains a septic system, a well in the southeastern portion of the project site, and a former hand-dug well in the central-southern portion of the project site. The on-site septic system is not anticipated to have adversely impacted the subject site due to its reported/presumed use for domestic purposes only. Because the well in the southeastern portion of the project site is not to be used in the planned redevelopment of the property, it would be properly abandoned/closed or destroyed in accordance with State and local guidelines. If it is discovered during the planned redevelopment of the subject site that the hand-dug agricultural well (located in the central-southern portion of the subject site 75 feet to the north of the tractor shed) was not properly destroyed, the well would be properly destroyed in accordance with State and local guidelines. The project would comply with State and local guidelines and impacts would be less than significant.

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

**No impact.** The closest school to the project site is the Washington Middle School located approximately 1.5 miles to the northeast. As such, the project would not be located within 0.25 mile of a school. No impact would occur.



- 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?**

**Less than significant impact.** The Phase I ESA prepared for the project conducted a review of regulatory agency records and reviewed local, State, and federal regulatory agency lists, including the State Water Board GeoTracker and Department of Toxic Substances Control Envirostor websites, to determine the presence of hazardous materials sites on-site. The Phase I ESA determined the project site is not listed on a hazardous materials site compiled pursuant to Government Code Section 65962.5. As such, impacts would be less than significant.

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

**Less than significant impact.** The closest airport to the project site is the Cloverdale Municipal Airport located approximately 0.82 mile to the east. The project site is not located within identified future noise contours or typical flight paths.<sup>51</sup> In addition, the Cloverdale Municipal Airport Master Plan uses the 2025 noise contours as the basis for assessing the compatibility of proposed development in the airport vicinity.<sup>52</sup> Because the project not located within an identified noise contour, the project would be compatible. As a result, the project would not expose people living or working in the project area to a safety hazard involving airport land uses. Therefore, impacts would be less than significant.

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

**Less than significant impact.** The project would not modify any existing roadways in a way that would impede emergency access or evacuation, such as permanent road closure or lane narrowing. The project would include internal roadways, extend Foothill Boulevard onto the project site, and construct a new road to connect the project site to South Redwood Highway. All project site access and internal roadways would be designed to meet the 20-foot width requirement for emergency vehicle use and access consistent with Cloverdale Municipal Code Section 503.2.1. Therefore, impacts would be less than significant.

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

**Less than significant impact.** The project site is located within a California Department of Forestry and Fire Protection (CAL FIRE) designated State Responsibility Area (SRA) moderate fire hazard zone.<sup>53</sup> The project site is not located within a designated Very High Fire Hazard Severity zone in a Local Responsibility Area (LRA).<sup>54</sup> As required by the General Plan Public Health and Safety Element and Cloverdale Municipal Code, the project would be consistent with the most recent version of the

<sup>51</sup> Wadell Engineering Corporation. Cloverdale Municipal Airport Master Plan 2025. Page 56. Exhibit 12 Future Noise Contours.

<sup>52</sup> Wadell Engineering Corporation. Cloverdale Municipal Airport Master Plan 2025. Page 52.

<sup>53</sup> California Department of Forestry and Fire Protection (CAL FIRE). Sonoma County Fire Hazard Severity Zones in SRA. 2007.

<sup>54</sup> California Department of Forestry and Fire Protection (CAL FIRE). Sonoma County Very High Fire Hazard Severity Zone in LRA. 2007.

California Fire Code and Building Codes and all roadways would be a minimum of 20 feet wide. In addition, the project would be provided adequate water supplies during, normal, dry, and multiple dry years, which would provide sufficient water in the event that fire protection services are required. Impacts would be less than significant.

## Mitigation Measures

### MM HAZ-1 Conduct Asbestos and Lead Surveys Prior to Demolition

Prior to the issuance of demolition permits for the existing residence and associated structures, the project applicant shall retain a licensed professional to conduct asbestos and lead paint surveys. These surveys shall be conducted prior to the disturbance or removal of any suspect asbestos-containing materials and lead-based paint, and these materials shall be characterized for asbestos and lead by a reliable method. All activities involving asbestos-containing materials and lead-based paint shall be conducted in accordance with governmental regulations, and all removal shall be conducted by properly licensed abatement contractors.

### MM HAZ-2 Soil Vapor and Groundwater Monitoring

**Soil Vapor monitoring:** During excavation and grading of the gravel driveway in the far eastern portion of the project site, a person trained in the use of a Photo Ionization Detector (PID) will monitor the excavation area. If the PID registers concentrations of benzene and/or chloroform above actionable levels (as defined by Sonoma County Department of Health Services—Environmental Health & Safety Division or other applicable regulatory body), the project applicant shall notify the BAAQMD. In addition, a construction worker health and safety plan shall be prepared and shall be implemented during project construction. The plan shall include the need for construction workers to wear vapor gas protection masks with the ability to filter out the identified compounds.

**Groundwater monitoring:** If groundwater is encountered on-site during construction within or in the vicinity of the gravel driveway, the groundwater must be tested to confirm the presence or absence of hazardous levels of lead. If actionable levels (as defined by Sonoma County Department of Health Services—Environmental Health & Safety Division or other applicable regulatory body) of lead are found in the groundwater, it shall be dewatered into a Baker Tank and be disposed of in accordance with regulations set forth by the Sonoma County Department of Health Services—Environmental Health & Safety Division or other applicable regulatory body. In addition, a construction worker health and safety plan identifying protective actions related to lead in groundwater shall be prepared and implemented during project construction.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>10. Hydrology and Water Quality</b> <i>Would the project:</i>				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

The City of Cloverdale's water supply relies on seven wells under the direct influence of surface water from the Russian River. The City is located within the Alexander Valley Groundwater Basin. In partnership with Sonoma County and the City of Santa Rosa, the City of Cloverdale is a co-permittee on a Municipal Separate Storm Sewer System (MS4) Phase 1 Permit, to regulate stormwater discharges into its system, to exempt specific non-stormwater discharges, and to adopt Low Impact Development (LID) BMPs. To comply with the permit, the City adopted a stormwater ordinance to regulate stormwater discharges into its system. Additionally, the City is implementing new LID standards that

include stormwater BMPs to reduce problems with erosion and increase the chance for on-site filtration and purification of stormwater.<sup>55</sup> This section is based on the Description of Stormwater Conveyance Study prepared by Walsh Engineering for the project site and included in Appendix G.

Would the project:

- a) **Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

**Less than significant impact.** The project has the potential to release water pollutants during both construction and operation that may violate water quality standards and degrade surface or groundwater quality. Additionally, the project site contains an unnamed drainage that collects surface runoff from the project site and surrounding neighborhoods.

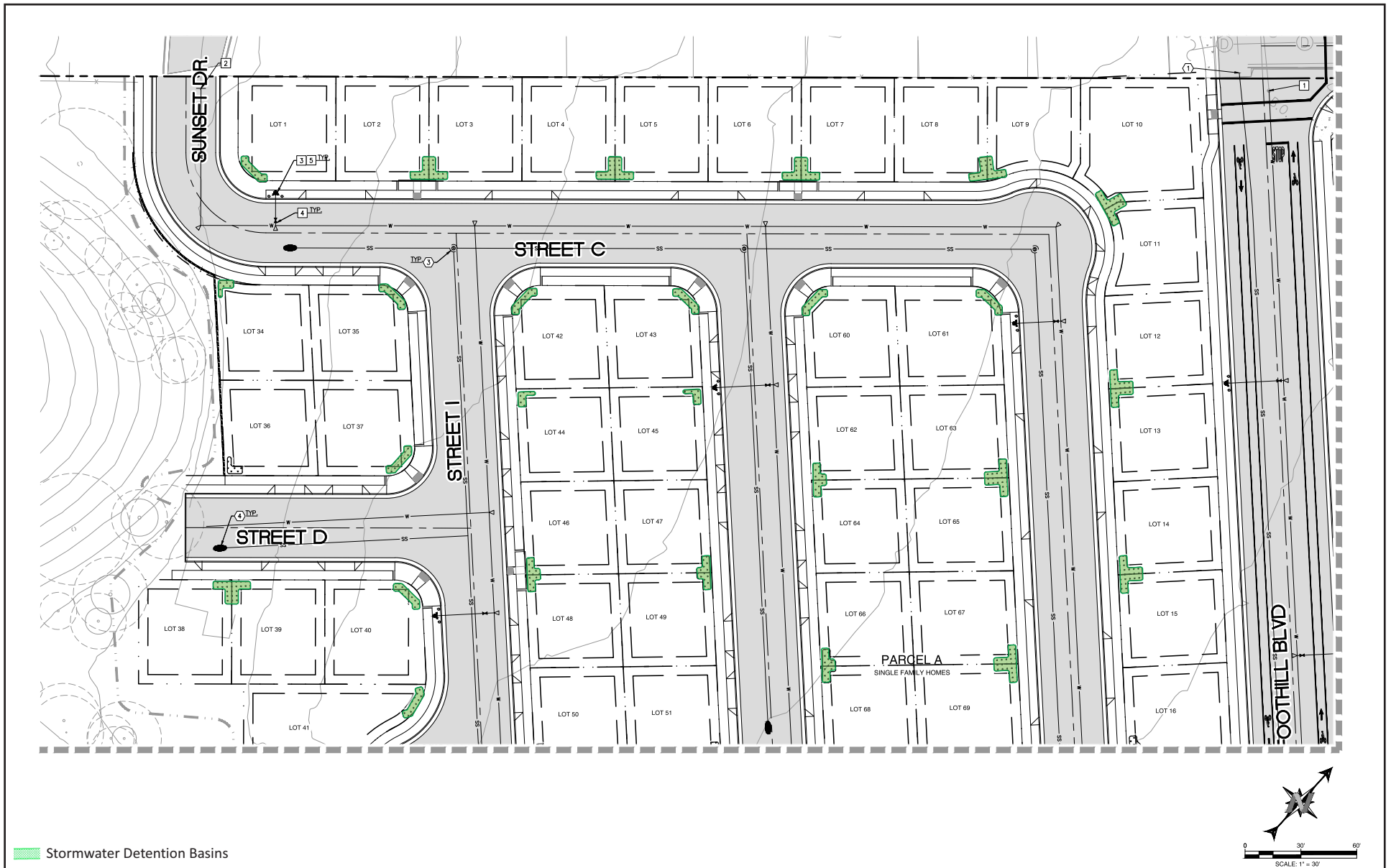
During construction activity, runoff carrying eroded soils and pollutants could enter storm drainage systems and enter the Russian River, increasing sedimentation and degrading downstream water quality. These sediments also would be carried downstream and discharged into the San Francisco Bay and Pacific Ocean, degrading surface water quality, or allowed to seep into the associated groundwater table. This would represent a potentially significant construction impact related to surface and groundwater quality.

Under the National Pollutant Discharge Eliminations System (NPDES) General Construction Permit (NPDES No. CAS000002, Order No. 99-08-DWQ) process, projects that disturb one or more acres of lands are required to obtain a permit before the start of construction activity. Accordingly, the project would be required to prepare and implement a SWPPP during construction in accordance with federal and State requirements. The SWPPP would identify structural and non-structural BMPs intended to prevent erosion during construction. Although construction activities have the potential to generate increased sedimentation, compliance with applicable policies and regulations would minimize the potential to degrade water quality in downstream water bodies to the maximum extent possible. As a result, construction-related project impacts related to surface and groundwater water quality would be less than significant.

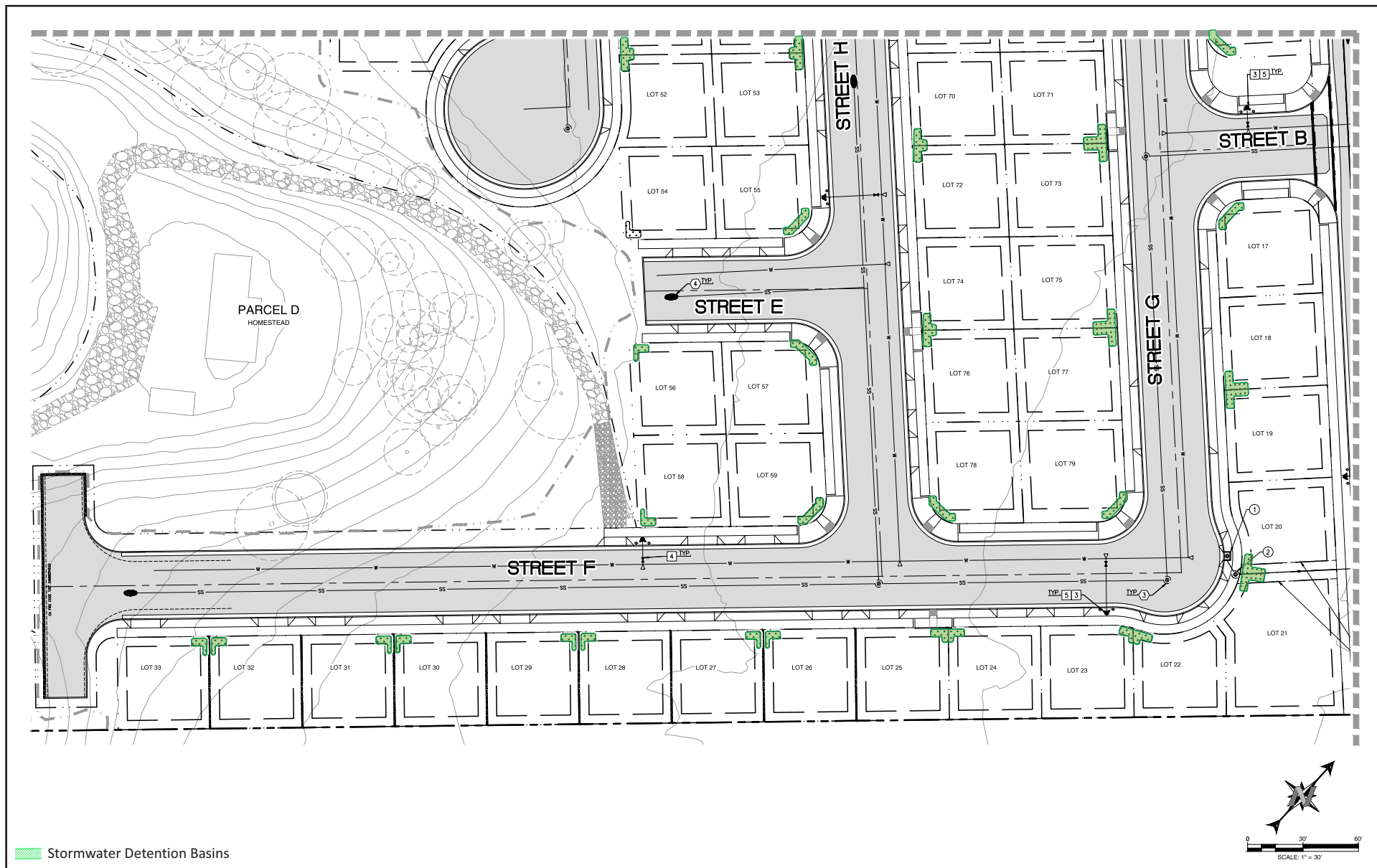
Under existing conditions, the 28.5-acre site is almost completely composed of pervious surfaces. The project would create approximately 20 acres of impervious surfaces and would install an on-site storm drainage system consisting of bioswales, inlets, basins, and underground piping. Consistent with Cloverdale Municipal Code Chapter 16.10, Storm Water, and as shown in Exhibit 9a, Exhibit 9b, Exhibit 9c, and Exhibit 9d the project would include BMPs, such as bioswales, planters, and rain gardens throughout the project site that mimic stormwater benefits of the natural environment, reduce peak runoff flow, and remove pollutants from stormwater flow. These standard best practices would ensure the project is consistent with the Cloverdale Municipal Code, and would reduce potential impacts to less than significant.

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<sup>55</sup> RMC Water and Environment (RMC). City of Cloverdale 2015 Urban Water Management Plan (UWMP). 2016.

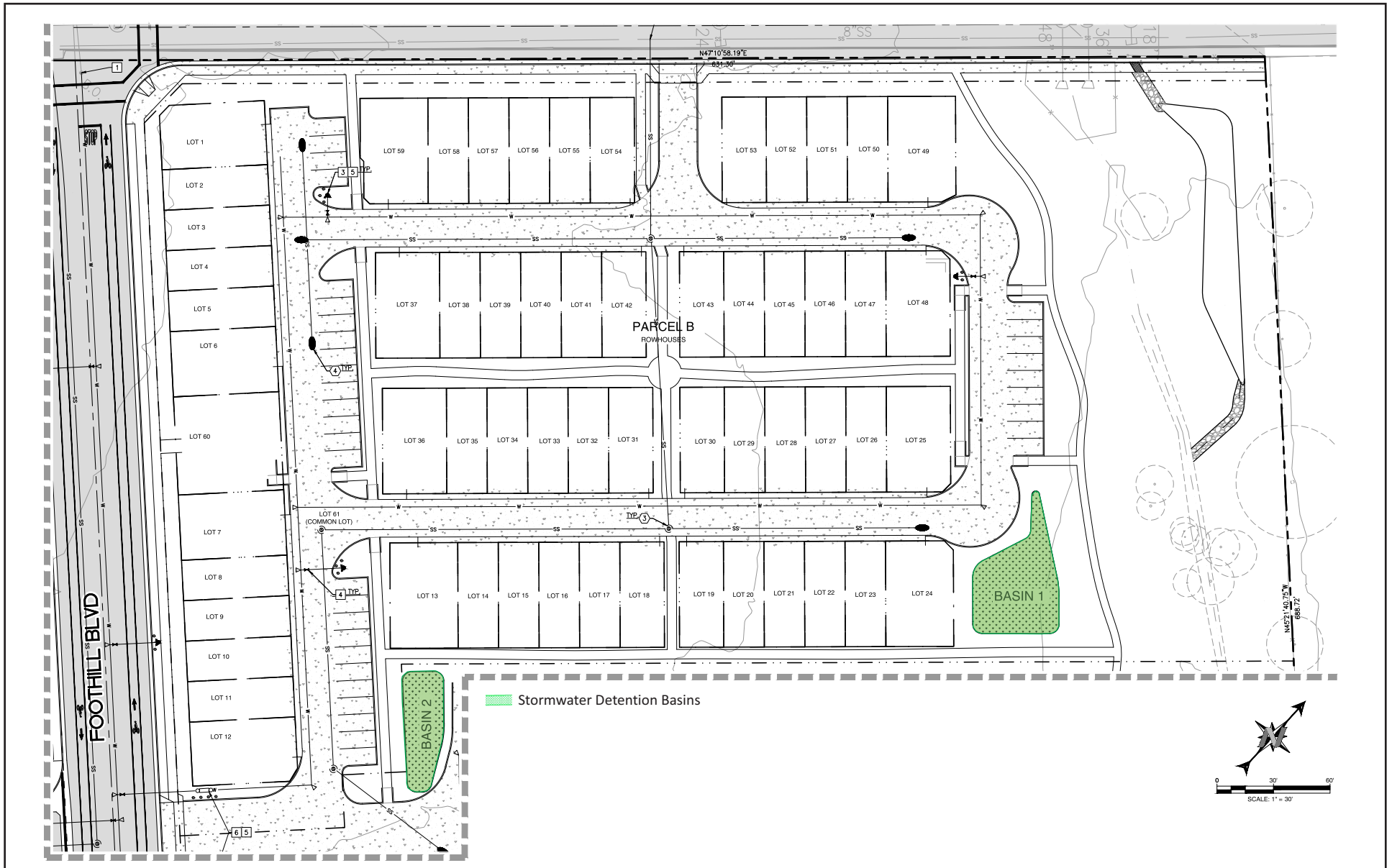


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Source: WALSH Engineering, October 1, 2019.

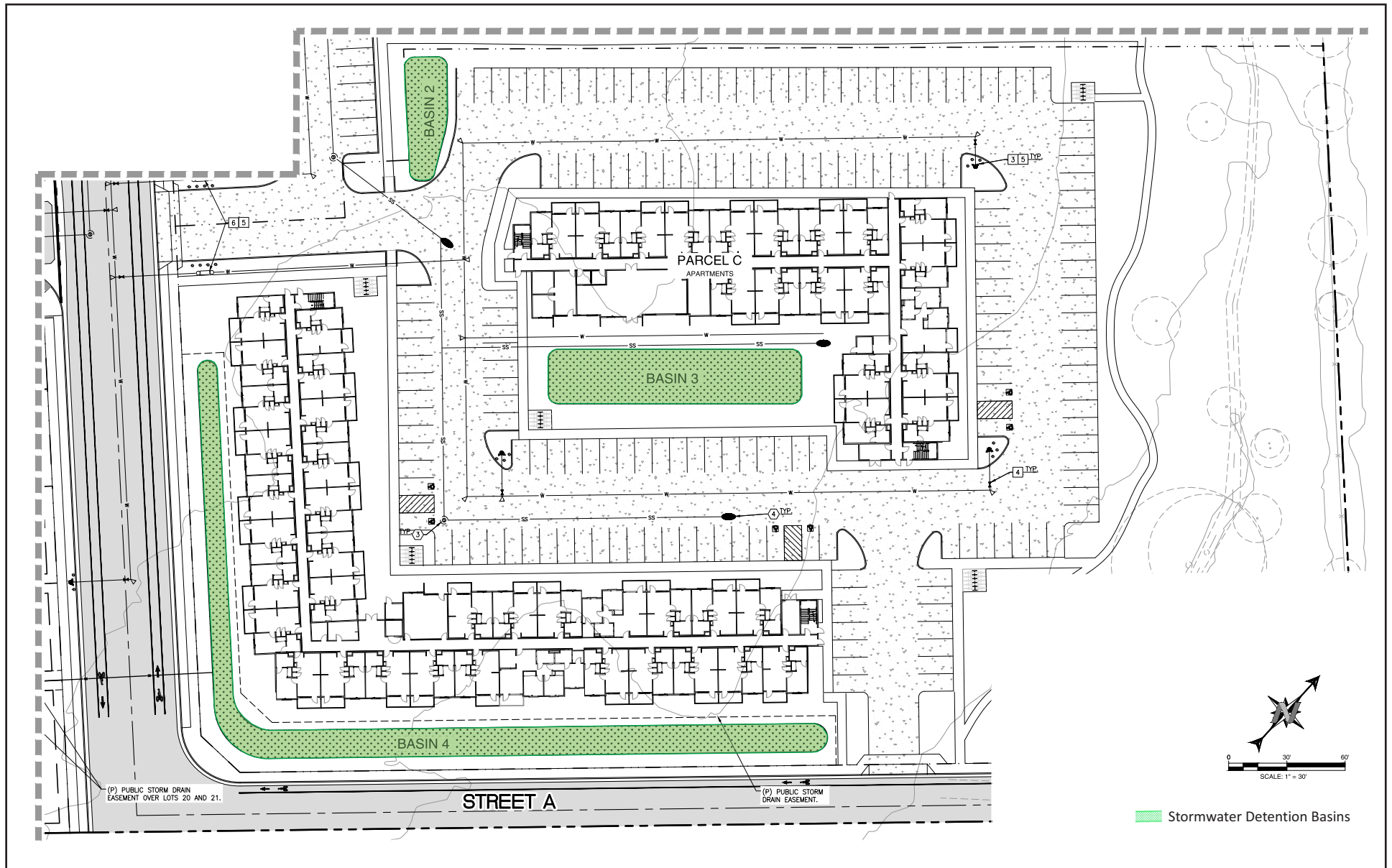
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## Exhibit 9c Parcel B Proposed Stormwater Facilities

CITY OF CLOVERDALE  
BAUMGARDNER RANCH DEVELOPMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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

**Less than significant impact.** The City lies within the Alexander Valley Groundwater Basin and does not currently pump groundwater from the Alexander Valley Groundwater Basin or use groundwater as part of the water supply. The City of Cloverdale obtains water from the Russian River via seven wells along its west bank.<sup>56</sup> The use of these wells is directly under the influence of surface water from the Russian River, and is not tied to the use of aquifers or groundwater basins.

The 2015 Urban Water Management Plan (UWMP) determined that the City's rate of growth, offset by water-saving regulations, would not result in the demand exceeding the amount of water currently drawn from the City's existing wellfield.<sup>57</sup> In addition, as discussed under Impact 10(a), the project would retain approximately 8.52 acres of pervious surfaces, including the existing unnamed drainage, and the preservation area, and would include BMPs that would reduce peak runoff flow while ensuring stormwater would be retained on-site. As a result, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. Therefore, impacts would be less than significant.

**c) Substantially alter the existing drainage pattern of 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;**

**Less than significant impact.** During construction and grading the project would likely alter the drainage pattern. In addition, replacement of the culvert within the unnamed drainage ditch and the development of the proposed mitigation basin to be created in the northeastern corner of the site (Exhibit 6) could also cause erosion and sedimentation impacts. However, as described in Impact 10(a) the project would be required to implement a SWPPP as part of its Construction General Permit. The SWPPP is designed to ensure that erosion and siltation are prevented or minimized to the maximum extent feasible during construction.

As discussed in Impact 10(a), the 28.5-acre site is almost completely composed of pervious surfaces. The project would create approximately 20 acres of impervious surface, which could increase the amount of stormwater runoff that could carry sediments and pollutants into the Russian River. In addition, the project proposes to maintain the existing oak woodland/open space area in the western portion of the project site, as well as include BMPs such as a bioretention area and native landscaping (Exhibits 9a–9d). Furthermore, the project would be required to comply with the Cloverdale Municipal Code Chapter 16, Storm Water, which includes LID and BMPs as mitigation. Therefore, impacts related to alteration of drainage patterns resulting in erosion or siltation would be less than significant.

<sup>56</sup> City of Cloverdale. 2015 Urban Water Management Plan (UWMP). Page 6-2.

<sup>57</sup> Ibid.

- (ii) **substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;**

**Less than significant impact.** As discussed in Impact 10(a), the site is almost completely composed of pervious surfaces. The project would create impervious surfaces which could increase the rate or amount of surface runoff in a manner that could result in flooding.

The project's proposed storm drainage system is designed to detain and meter the release of peak runoff in order to avoid inundating downstream waterways in a manner that creates substantial flooding on- or off-site. As shown in Exhibits 6 and 9a–9d, the project would include bioretention areas and BMPs throughout the project site consistent with LID measures contained in Cloverdale Municipal Code Chapter 16.10, Storm Water. In addition, the project would not significantly alter the drainage pattern of the project site or the unnamed drainage. Therefore, impacts would be less than significant.

- (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**

**Less than significant impact.** The project would increase the amount of surface runoff generated on the project site because of an increase in impervious surfaces. Consistent with the Construction General Permit, the project would implement a SWPPP during construction which would identify structural and non-structural BMPs intended to prevent significant polluted runoff during construction. In addition, the project would install an on-site storm drainage system consisting of bioswales, inlets, basins, and underground piping (Exhibits 6, and 9a–9d). The storm drainage system is designed to detain and meter the release of peak runoff in order to avoid inundating downstream waterways in a manner that exceeds the capacity of storm drainage facilities. Additionally, the on-site storm drainage system would include stormwater treatment features, such as a bioretention area and native landscaping to reduce peak stormwater flows and prevent pollutants from leaving the project site. Collectively, these features would ensure that the project would not contribute runoff that would exceed the capacity of downstream stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

- (iv) **impede or redirect flood flows?**

**No impact.** The project would not be located in an area prone to flooding or within a designated flood hazard zone.<sup>58</sup> As described in further detail under Impact 10(d), 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 impact.

- d) **In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**

**No impact.** The project site is located in Zone X—Area of Minimal Flood Hazard.<sup>59</sup> In addition, the project is not located near a flood prone area. Seiches and tsunamis are short duration earthquake-

<sup>58</sup> Federal Emergency Management Agency (FEMA). Flood Map Service Center Flood Insurance Rate Map (FIRM) No. 06097C0119E. Website: <https://msc.fema.gov/portal/search?AddressQuery=cloverdale%2C%20CA#searchresultsanchor>. Accessed June 3, 2019.

<sup>59</sup> Federal Emergency Management Agency (FEMA). Flood Map Service Center Flood Insurance Rate Map (FIRM) No. 06097C0119E. Website: <https://msc.fema.gov/portal/search?AddressQuery=cloverdale%2C%20CA#searchresultsanchor>.



generated water waves in large enclosed bodies of water and the open ocean. The project site is not near any large inland bodies of water and is more than 20 miles from the Pacific Ocean and 4 miles from Lake Sonoma, a condition that precludes inundation by tsunami or seiche. Therefore, no impacts would occur.

**e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

**Less than significant impact.** 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 or groundwater basins. As discussed under Impact 10(b), the City lies within the Alexander Valley Groundwater Basin and does not currently pump groundwater from the Alexander Valley Groundwater Basin. In addition, the 2015 UWMP determined that the City's rate of growth, offset by water-saving regulations, would not result in the demand exceeding the amount of water currently drawn from the City's existing wellfield. As a result, the project would not conflict with or obstruct a water quality control plan or groundwater management plan. Therefore, impacts would be less than significant.

## Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>11. Land Use and Planning</b> <i>Would the project:</i>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

The project site is located in unincorporated Sonoma County, directly outside and adjacent to the Cloverdale city limits but within the City of Cloverdale's Sphere of Influence and Urban Growth Boundary. The General Plan designates the project site as a mixture of CF, LDR, and GI (Exhibit 4). As shown in Exhibit 5, the project site is designated by the Sonoma County Zoning Code as Agricultural Residential (AR), Rural Residential (RR), and Limited Urban Industrial (M1). The project is proposing a General Plan Amendment and a PUD permit to be consistent with Cloverdale Municipal Code. The PUD zoning district is intended to provide flexibility in land use development standards for development that conforms to the General Plan land use provisions and achieves one or more of the following purposes:

- Permit the clustering of single-family or multifamily dwellings in order to preserve unique features on a property or provide for public parks and/or buildings.
- Allow master planning of sites with multiple property owners in order to provide predictable land use expectations for individual owners.
- Allow master planning of large sites over 2 acres so that the property can be developed in phases, providing predictable land use expectations for each phase of the development.
- Allow City-initiated PD zoning to achieve goals such as historic preservation, neighborhood conservation, or phasing of development or to:
  1. Enhance and preserve unique features on a property, such as historical significance, unusual topographic or physiographic characteristics.
  2. Allow provision for or development of parks, public buildings, and public amenities.

### California Senate Bill 1818

California SB 1818, Chapter 928, provides developers with a density bonus and other incentives for constructing lower income housing units within a development provided the developer meets certain requirements, as enumerated in Section 65915(b) of the Government Code:

- 65915 (b) A city, county, or city and county shall grant a density bonus and incentives or concessions described in subdivision (d) when the applicant for the housing development seeks and agrees to construct at least any one of the following:
- (1) Ten percent of the total units of a housing development for lower income households, as defined in Section 50079.5 of the Health and Safety Code.
  - (2) Five percent of the total units of a housing development for very low income households, as defined in Section 50105 of the Health and Safety Code.
  - (3) A senior citizen housing development as defined in Sections 51.3 and 51.12 of the Civil Code.
  - (4) Ten percent of the total dwelling units in a condominium project as defined in subdivision (f) of, or in a planned development as defined in subdivision (k) of, Section 1351 of the Civil Code, for persons and families of moderate income, as defined in Section 50093 of the Health and Safety Code.

The project proposes to make 30 percent of its housing units affordable to low income families—in accordance with item (1) above—and is therefore eligible for the maximum density increase (35 percent) as well as incentives, concessions, and reduced parking allowed under Government Code Section 65915.

Would the project:

**a) Physically divide an established community?**

**No impact.** The physical division of an established community would occur if construction of a large linear feature such as a railroad or interstate highway separated an existing community or if a feature that connects a community is removed, such as a bridge.

The project does not propose a large linear feature that could separate a community. The project would result in the development of 304 dwelling units on a site that is currently developed with one single-family home. Currently, Sandholm Lane and Street A provide access to the project site; these roads would not be altered in any way that would reduce connectivity. The project's on-site extension of Foothill Boulevard would increase connectivity in the area. As a result, the project would not physically divide an established community, and no impacts would occur.

**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?**

**Less than significant impact.** Because the project site is currently located outside of the city limits, the project would require annexation into the City of Cloverdale. The project site is within the City's Sphere of Influence. As described in the General Plan, "the City Sphere of Influence is the area of the City that has been approved for future annexation by the Sonoma County Local Agency Formation Commission. The Sonoma County General Plan uses the Sphere of Influence to define the ultimate

area to be annexed to the City.”<sup>60</sup> The General Plan designates the project site as a mixture of Conservation Feature (CF), Low Density Residential (LDR), and General Industrial (GI), and, therefore, development on the site was anticipated in the General Plan.

A significant impact would occur if the project would conflict with the City’s General Plan or the Zoning Code. When a project seeks an amendment to the General Plan as an element of the project itself, to rectify inconsistency with the existing designation or zoning, the amendment necessitates a legislative policy decision by the agency and does not signify a potential environmental effect. As such, the proposed General Plan amendment and rezoning, if approved, constitute a self-mitigating aspect of the project that would serve to correct a conflict that would otherwise exist.

As discussed in the Project Description, and in the introduction to this section, the project applicant proposes to develop 30 percent of the housing units as affordable to low-income families, in accordance with Section 65915(b) of the Government Code. As a result, the project is eligible for a 35 percent density bonus from the base density required by the General Plan as well as incentives, concessions, and reduced parking.

The project also includes a request for rezoning to PUD, which would allow development to be clustered to preserve significant features such as the oak woodlands in the western portion of the site and the unnamed drainage along the eastern boundary. The PUD zoning would allow density to be calculated across the entire site, as stated in Chapter 18.08, Permitted Uses, which states:

... development clustering may be used to achieve the allowable General Plan density for the entire site including the land area of features preserved ... Land uses shall be consistent with underlying General Plan land uses; however, residential densities may be distributed throughout the master planned area as if it were a single property.

Overall, the project would result in 304 units on 28.5 acres with an overall density of 10.7 units per acre, consistent with the proposed PUD and HDR land use designation maximum allowable housing density of 16 units per acre. As a result, the project would not conflict with the General Plan designations or Zoning Code.

Therefore, impacts would be less than significant.

### Noise Land Use Compatibility

For a discussion of the characteristics of noise and further information regarding the applicable noise regulatory framework, refer to the Noise impact discussion in Section 13 of this document.

**Less than significant impact.** Implementation of the project could introduce new residential land uses to an ambient noise environment that is in conflict with the City’s established noise land use compatibility guidelines. A significant impact would occur if the project would result in a conflict with the City’s adopted noise land use compatibility standards. The Noise Element of the General

<sup>60</sup> City of Cloverdale. 2015. General Plan. January 28. Page 7. Website: <http://www.cloverdale.net/documentcenter/view/1673>. Accessed March 7, 2019.

Plan indicates that for new residential land use developments, environments with ambient noise levels ranging up to 60 A-weighted decibel (dBA) community noise equivalent level (CNEL) are considered “normally acceptable.”

The ambient noise environment of the project site has been documented through ambient noise measurements, as well as through traffic noise modeling. Two short-term noise measurements were taken on Monday, March 11, 2019, beginning at 2:22 p.m. and ending at 3:03 p.m. The noise measurements data sheet is provided in Appendix H of this document. Noise monitoring location ST-1 was taken approximately 345 feet southeast of the northwest boundary and approximately 175 feet southwest of the northeast boundary of the project site. Noise monitoring location ST-2 was taken on the northwest boundary of the project site, approximately 35 feet northeast of the intersection of Sandholm Lane and Foothill Boulevard. The noise monitoring locations were selected in order to document existing long-term ambient noise levels on the project site and to determine compatibility of the project with the City’s land use compatibility standards.

At ST-1, the average hourly ambient noise levels were measured to be 42.0 dBA equivalent sound level ( $L_{eq}$ ), with a maximum reading of 46.1 dBA maximum noise/sound level ( $L_{max}$ ) and minimum reading of 40.8 dBA minimum noise/sound level ( $L_{min}$ ). At ST-2, the average hourly ambient noise levels were measured to be 53.8 dBA  $L_{eq}$ , with a maximum reading of 74.0 dBA  $L_{max}$  and minimum reading of 36.1 dBA  $L_{min}$ . The noise monitoring locations and measurement results data are contained in Appendix H. The short-term noise measurement captured noise from all noise sources in the project vicinity, including traffic on local roadways. These measured ambient noise levels are within the City’s “Normally Acceptable” threshold of below 60 dBA CNEL for residential land use developments.

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was also used to evaluate existing and future traffic noise conditions in the project vicinity. The projected future traffic noise levels adjacent to the project site were analyzed to determine compliance with the City’s noise and land use compatibility standards. The daily traffic volumes were obtained from the Traffic Impact Study (TIS) for the Baumgardner Ranch Project prepared by W-Trans.<sup>61</sup> The resultant noise levels were weighed and summed over a 24-hour period in order to determine the CNEL values. The traffic noise modeling input and output files are included in Appendix H. Table 18 shows a summary of the traffic noise levels for existing, existing plus project, future without project, and future with project traffic conditions as measured at 50 feet from the centerline of the outermost travel lane of the roadway segments in the TIS study area.

**Table 18: Traffic Noise Model Results Summary**

Roadway Segment	Existing (dBA) CNEL	Existing Plus Project (dBA) CNEL	Future (dBA) CNEL	Future Plus Project (dBA) CNEL
Sandholm Lane—Foothill Boulevard to South Redwood Highway	48.6	53.3	49.9	53.7
Foothill Boulevard—Treadway Drive to Sandholm Lane	49.9	51.1	51.5	52.2

<sup>61</sup> W-Trans. Traffic Impact Study for the Baumgardner Ranch Project. Prepared for the City of Cloverdale. 2019. April.

**Table 18 (cont.): Traffic Noise Model Results Summary**

Roadway Segment	Existing (dBA) CNEL	Existing Plus Project (dBA) CNEL	Future (dBA) CNEL	Future Plus Project (dBA) CNEL
Treadway Drive—Foothill Boulevard to South Redwood Highway	56.7	57.0	58.1	58.2
Source: FCS 2019.				

Based on the modeled traffic noise results, the highest noise levels would occur under Future Plus Project traffic conditions. The modeling results in Table 18 show that traffic noise levels along the modeled roadway segment of Treadway Drive between Foothill Boulevard and South Redwood Highway would range up to 58.2 dBA CNEL under Future Plus Project traffic conditions as measured at 50 feet from the centerline of the outermost travel lane. The nearest façade of the proposed multifamily residential development would be located approximately 1,250 feet from the centerline of the outermost travel lane of this roadway segment. At this distance, traffic noise levels along this roadway segment would attenuate to approximately 30 dBA CNEL. These traffic noise levels are well below the City’s normally acceptable land use compatibility threshold of 60 dBA CNEL for new residential land use developments.

The modeled roadway segment of Sandholm Lane, between Foothill Boulevard and South Redwood Highway, is immediately adjacent to the project site. The modeling results in Table 18 indicated that traffic noise levels along this roadway segment would range up to 53.7 dBA CNEL under Future Plus Project traffic conditions, measured at 50 feet from the centerline of the outermost travel lane. The nearest façade of the proposed multifamily residential facility would be located approximately 35 feet from the centerline of the outermost travel lane of this roadway segment. At this distance, traffic noise levels along this roadway segment would attenuate to approximately 56 dBA CNEL. These traffic noise levels are also below the City’s normally acceptable land use compatibility threshold of 60 dBA CNEL for new residential land use developments.

Therefore, the project would not result in a conflict with the City’s adopted noise land use compatibility regulations adopted for the purpose of avoiding or mitigating an environmental effect, and the impact would be less than significant.

## Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>12. Mineral Resources</b> <i>Would the project:</i>				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

There are no areas in Cloverdale that are designated by the State Mining and Geology Board under the California Surface Mining and Reclamation Act of 1975 (SMARA). According to the California Geological Survey Updated Mineral Land Classification Map, Cloverdale is classified as a Mineral Resource Zone (MRZ)-3 area. An MRZ-3 area contains mineral occurrences of undetermined mineral resource significance.<sup>62</sup> There are no active mineral recovery sites within a 0.75-mile radius of the project location. The closest mineral recovery site to the project site is the Russian River, located approximately 0.93 mile east from the project site.

Would the project:

- a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

**No impact.** The project site does not support any mineral extraction activities, nor do any known mineral deposits exist on-site. Therefore, implementation of the project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Therefore, no impacts would occur.

- b) **Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

**No impact.** As described previously, the project site is designated under the General Plan as LDR, CF, and GI. These land use designations do not allow for mineral resource recovery sites. As a result, this condition precludes the possibility of the project's impact on a locally important mineral resource as delineated on a local general plan, specific plan or other land use plan. Thus, no impacts would occur.

<sup>62</sup> California Department of Conservation. 2011. Mineral Land Classification. Website: [ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR\\_175/](ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_175/). Accessed March 14, 2019.



## **Mitigation Measures**

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>13. Noise</b> <i>Would the project result in:</i>				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Based on the 2019 CEQA Appendix G checklist questions, the noise land use compatibility discussion is now contained within the Land Use and Planning discussion (Section 11) of this document.

## Environmental Evaluation

### Characteristics of Noise

Noise is defined as unwanted sound. Most of the sounds that we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. Noise is typically generated by transportation, specific land uses, and ongoing human activity.

The standard unit of measurement of the loudness of sound is the decibel (dB). 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. A change of 3 dB is the lowest change that can be perceptible to the human ear in outdoor environments. While a change of 5 dBA is considered to be the minimum readily perceptible change to the human ear in outdoor environments.

Since the human ear is not equally sensitive to sound at all frequencies, the dBA scale was derived to relate noise to the sensitivity of humans, it gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for a number of various sound level metrics, including the day/night sound level ( $L_{dn}$ ) and the CNEL, both of which represent how humans are more sensitive to sound at night. In addition, the equivalent continuous sound level ( $L_{eq}$ ) is

the average sound energy of time-varying noise over a sample period and the  $L_{\max}$  is the maximum instantaneous noise level occurring over a sample period.

## Regulatory Framework

The project site is located in the City of Cloverdale. The City of Cloverdale addresses noise in the Noise Element of the General Plan.<sup>63</sup>

### ***Cloverdale General Plan***

The City of Cloverdale establishes Land Use and Noise Compatibility Standards in Exhibit 4.1 of the Noise Element. The land use category that applies to the project is residential. According to the City's Land Use and Noise Compatibility Standards, noise environments with noise levels up to 60 dBA CNEL are considered to be normally acceptable, while noise environments from 60 dBA to 70 dBA CNEL are considered to be conditionally acceptable, for new residential land use developments. Additionally, interior noise levels for new single-family and multifamily residential projects must be maintained below 45 dBA CNEL. Policy NE 1-3 of the Noise Element establishes that noise from stationary sources such as music, machinery and pumps, air conditioners, should be contained on the noise-generating site and should not exceed the exterior noise level standards noted above for receiving land uses.

Would the project result in:

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

## Short-term Construction Impacts

**Less than significant impact with mitigation incorporated.** A significant impact would occur if construction activities would result in generation of a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors. 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 could occur during the construction of the project. First, construction crew commutes and the transport of construction equipment and materials to the project site would incrementally increase noise levels on access roads leading to the project site (vehicle engine noise, the sound of vehicle doors shutting, etc.). Although there would be a relatively high single event noise exposure potential causing intermittent noise nuisance, the effect on longer-term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

<sup>63</sup> City of Cloverdale. 2009. General Plan Noise Element. Website: <http://www.cloverdale.net/DocumentCenter/Home/View/537>. Accessed on April 29, 2019.

The second type of short-term noise impact is related to noise generated during construction on the project site. Construction is completed 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 the site and, therefore, the noise levels surrounding the site 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.

The site preparation construction phase is expected to require the use of front-end loaders, compactors, hydraulic backhoes, and haul trucks. 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. Impact equipment such as pile drivers is not expected to be used during construction of this project. Because the noisiest construction equipment is earthmoving equipment, the site preparation phase is expected to be the loudest phase of construction. A characteristic of noise is that each doubling of the 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, the worst-case combined noise level during this phase of construction would be 90 dBA  $L_{max}$  at a distance of 50 feet from an active construction area. 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 (acoustic center) would be the worst-case maximum noise level. These operations would be expected to result in a reasonable worst-case hourly average of 86 dBA  $L_{eq}$  at a distance of 50 feet from the acoustic center of a construction area.

The closest sensitive receptor to proposed areas of construction is a single-family residence on Sunrise Drive, northwest of the project site. The façade of this closest residence would be located approximately 75 feet from the acoustic center of construction activity where multiple pieces of heavy construction equipment would potentially operate at the project site. At this distance, worst-case construction noise levels could range up to approximately 86 dBA  $L_{max}$ , intermittently, and could have an hourly average of up to 82 dBA  $L_{eq}$  at the façade of the nearest single-family residential home when multiple pieces of equipment operate simultaneously at the nearest center of construction activity. These noise levels would occur for only a short period, as noise levels would drop off at a rate of 6 decibels per doubling of distance as construction equipment moves across the site. However, these levels could result in a significant impact by resulting in sleep disturbance of nearby sensitive receptors if construction activities are not restricted to daytime hours.

Although there would be single event noise exposure potential causing intermittent noise nuisance from project construction activity, the effect on longer-term (hourly or daily) ambient noise levels would be small. However, to prevent potential sleep disturbance, hours of construction should be limited and best management noise reduction practices should be implemented, as outlined in MM NOI-1. Construction activities should be restricted to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturday. No construction activities shall be permitted on Sundays or holidays. Implementation of MM NOI-1 would ensure that project construction activities would not result in a substantial temporary increase in ambient

noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors, and the impact would be less than significant.

### **Operational/Stationary Source Noise Impacts**

**Less than significant impact.** A significant impact would occur if operational noise levels generated by stationary noise sources at the project site would result in a substantial permanent increase in ambient noise levels in excess of any of the noise performance thresholds established by the City of Cloverdale. According to Policy NE 1-3, in the Noise Element of the General Plan, noise from stationary sources such as music, machinery, pumps, and air conditioners should not exceed the City's normally acceptable land use compatibility standards as measured at a receiving property line. The City's normally acceptable thresholds are 60 dBA CNEL and 65 dBA CNEL for residential and commercial land uses, respectively.

#### ***Mechanical Equipment Operations***

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 residential mechanical ventilation systems was used. Noise levels from typical residential mechanical ventilation equipment are sound rated from 45 dBA to 60 dBA  $L_{eq}$  as measured at approximately 3 feet from the operating unit.

Mechanical ventilation systems could be located as close as 10 feet from the nearest off-site residential receptor. At this distance, noise generated by mechanical ventilation equipment would attenuate to less than 50 dBA  $L_{eq}$  at the nearest residential property line. Therefore, these noise levels would not exceed the City's normally acceptable threshold of 60 dBA CNEL as measured at the property line of residential land uses.

Mechanical ventilation systems also could be located as close as 20 feet from the nearest off-site commercial receptor. At this distance, noise generated by mechanical ventilation equipment would attenuate to less than 44 dBA  $L_{eq}$  at the nearest commercial property line. These noise levels would not exceed the City's normally acceptable threshold of 65 dBA CNEL as measured at the property line of commercial land uses.

Therefore, proposed mechanical ventilation equipment operational noise levels, as measured at the property line of the nearest off-site receptors, would not result in a substantial permanent increase in ambient noise levels in excess of the City's normally acceptable land use compatibility standards as measured at the nearest receiving properties; and the impact would be less than significant.

#### ***Parking Lot Activities***

A significant impact would occur if operational noise levels generated by parking lot activities at the project site would result in a substantial permanent increase in ambient noise levels. 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, for purposes of this analysis, an increase of greater

than 3 dBA above existing ambient noise levels would be considered a substantial permanent increase in ambient noise levels.

The project would include new stationary noise sources, such as typical parking lot activities. Typical parking lot activities such as people conversing, doors slamming, or vehicles idling generate noise levels of approximately 60 dBA to 70 dBA  $L_{\max}$  at 50 feet. These activities are expected to occur sporadically throughout the day, as residents arrive and leave the parking lot areas. Existing background ambient noise levels are documented by the ST-2 noise measurement to average noise levels of 53.8 dBA  $L_{eq}$  and maximum noise levels up to 74.0 dBA  $L_{eq}$  along the northwest boundary of the project site near the residential homes on Sunrise Drive. Although there would be occasional high, single-event noise exposure ranging up to 57 dBA  $L_{\max}$  as measured at the nearest receptor from parking lot activities, such activities would not result in a 3 dBA increase over existing noise levels. Parking lot activities would occur intermittently and for only a short duration of time. These single-event maximum noise level activities would only occur for a cumulative of a minute or two within any hour, and would therefore not result in a perceptible increase in the hourly average noise levels in the project vicinity. Therefore, project-related parking lot activities would not result in a substantial permanent increase in ambient noise levels as measured at nearby sensitive receptors; and the impact would be less than significant.

### Operational/Mobile Source Noise Impacts

**Less than significant impact.** A significant impact would occur if project-generated traffic would result in a substantial increase in ambient noise levels compared with those that would exist without the project. The City does not define “substantial increase,” therefore, for purpose of this analysis a substantial increase is based on the following criteria. A characteristic of noise is that 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, for purposes of this analysis, a significant impact would occur if project-related traffic would cause the CNEL along roadway segments in the project vicinity to increase by any of the following:

- 5 dBA or more even if the CNEL would remain below normally acceptable levels for a receiving land use.
- 3 dBA or more, thereby causing the CNEL 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 CNEL currently exceeds conditionally acceptable levels.

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was also used to evaluate existing and future traffic noise conditions in the project vicinity. The projected future traffic noise levels adjacent to the project site were analyzed to determine compliance with the City’s noise and land use compatibility standards. The daily traffic volumes were obtained from the TIS prepared for

the project by W-Trans on May 28, 2019.<sup>64</sup> The resultant noise levels were weighed and summed over a 24-hour period in order to determine the CNEL values. The traffic noise modeling input and output files are included in Appendix H of this document. Table 19 shows a summary of the traffic noise levels for existing, existing plus project, future, and future plus project conditions as measured at 50 feet from the centerline of the outermost travel lane.

**Table 19: Traffic Noise Increase Summary**

Roadway Segment	Existing (dBA) CNEL	Existing Plus Project (dBA) CNEL	Increase over Existing (dBA)	Future (dBA) CNEL	Future Plus Project (dBA) CNEL	Increase over Future (dBA)
Sandholm Lane—Foothill Boulevard to South Redwood Highway	48.6	53.3	4.7	49.9	53.7	3.8
Foothill Boulevard—Treadway Drive to Sandholm Lane	49.9	51.1	1.2	51.5	52.2	0.7
Treadway Boulevard—Foothill Boulevard to South Redwood Highway	56.7	57.0	0.3	58.1	58.2	0.1

Source: FCS 2019.

As shown in Table 19, the highest traffic noise level increase with implementation of the project would occur along Sandholm Lane, between Foothill Boulevard and South Redwood Highway, under Existing Plus Project conditions. Along this roadway segment, the project would result in traffic noise levels ranging up to 53.3 dBA CNEL as measured at 50 feet from the centerline of the nearest travel lane, representing an increase of 4.7 dBA over existing conditions for this roadway segment. The resulting noise levels would remain below the normally acceptable threshold for receiving land uses adjacent to this roadway segment. The project-related increase is below the 5 dBA increase that would be considered a substantial permanent increase in noise levels compared with noise levels that would exist without the project. Therefore, impacts from project-related traffic noise levels would not result in a substantial permanent increase in traffic noise levels in excess of applicable standards, and the impact would be less than significant.

**b) Generation of excessive groundborne vibration or groundborne noise levels?**

**Less than significant impact.** A significant impact would occur if the project would generate groundborne vibration or groundborne noise levels in excess of established standards. For determining construction-related vibration impacts, the Federal Transit Administration (FTA) Construction Vibration Impact Criteria are utilized. The FTA has established industry accepted standards for vibration impact assessment in its Transit Noise and Vibration Impact Assessment Manual, dated September 2018.

<sup>64</sup> W-Trans. Traffic Impact Study for the Baumgardner Ranch Project. Prepared for the City of Cloverdale. 2019. May.



Groundborne noise is generated when vibrating building components radiate sound, or noise generated by groundborne vibration. In general, if groundborne vibration levels are do not exceed levels considered to be perceptible, then groundborne noise levels would not be perceptible in most interior environments. Therefore, this analysis focuses on determining exceedances of groundborne vibration levels.

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

### ***Short-term Construction Vibration Impacts***

A significant impact would occur if existing structures at the project site or in the project vicinity would be exposed to groundborne vibration levels in excess of levels established by the FTA's Construction Vibration Impact Criteria for the type of structure.

Of the variety of equipment used during construction, the small vibratory rollers that are anticipated to be used in the site preparation phase of construction would produce the greatest groundborne vibration levels. Small vibratory rollers produce groundborne vibration levels ranging up to 0.101 inch per second (in/sec) PPV at 25 feet from the operating equipment.

The nearest off-site receptor to the project site is the single-family home located west of the project site. The façade of this building would be located approximately 18 feet from the nearest construction footprint where the heaviest construction equipment would potentially operate. At this distance, groundborne vibration levels would range up to 0.165 PPV from operation of the types of equipment that would produce the highest vibration levels. This is below the FTA's Construction Vibration Impact Criteria of 0.2 PPV for buildings of non-engineered timber and masonry. Therefore, the impact of short-term groundborne vibration associated with construction to off-site receptors would be less than significant.

### ***Operational Vibration Impacts***

A significant impact would occur if the project would generate excessive groundborne vibration levels at sensitive receptors in the project vicinity.

Implementation of the project would not include any permanent sources of vibration that would expose persons in the project vicinity to groundborne vibration levels that could be perceptible without instruments at any existing sensitive land use in the vicinity of the project site. Therefore, operational groundborne vibration impacts would be less than significant.

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

**Less than significant impact.** A significant impact would occur if the project would expose people residing or working in the project area to excessive noise levels 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 2 miles of a public airport or public use airport.

The project site is not located within the vicinity of a private airstrip. The nearest public airport to the project site is the Cloverdale Municipal Airport, located approximately 0.82 mile east of the project site. The project site is located outside of the 55 dBA CNEL airport noise contours of this closest airport. While aircraft noise is occasionally audible on the project site from aircraft flyovers, aircraft noise associated with nearby airport activity would not expose people residing or working near the project site to excessive noise levels. Therefore, implementation of the project would not expose persons residing or working in the project vicinity to noise levels from airport activity that would be in excess of normally acceptable standards for the proposed land use development, and impacts would be less than significant.

## Mitigation Measures

**MM NOI-1** Implementation of the following multi-part mitigation measure is required to reduce potential construction period noise impacts:

- The construction contractor shall ensure that all equipment driven by internal combustion engines shall be equipped with mufflers, which are in good condition and appropriate for the equipment.
- The construction contractor shall ensure that unnecessary idling of internal combustion engines (i.e., idling in excess of 5 minutes) is prohibited.
- The construction contractor shall utilize “quiet” models of air compressors and other stationary noise sources where technology exists.
- At all times during project grading and construction, the construction contractor shall ensure that stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from adjacent residences.
- The construction contractor shall ensure that the construction staging areas shall be located to create the greatest feasible distance between the staging area and noise-sensitive receptors nearest the project site.
- The construction contractor shall ensure that all on-site demolition and construction activities, including deliveries and engine warm-up, shall be restricted to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturday. No such activities shall be permitted on Sundays or holidays.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>14. Population and Housing</b> <i>Would the project:</i>				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

As of 2018, the City of Cloverdale had a population of 9,134.<sup>65</sup> By 2040, the City's population is projected to reach 11,500 residents.<sup>66</sup> The Association of Bay Area Governments (ABAG) estimated that there were 1,570 jobs in Cloverdale as of 2010 and projects that the number of jobs will increase over the next 30 years to a total of 2,270 in 2040.<sup>67</sup> As of November 2013, Cloverdale's unemployment rate was 9.3 percent, down from 11.8 percent in November 2012.<sup>68</sup>

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)?**

**Less than significant impact.** Unplanned direct population growth would occur if the project results in population growth not considered by the City of Cloverdale in its General Plan. The project would develop 304 units. Using the City of Cloverdale's average household size of 2.77 persons per household, the project could directly increase population by as much as 845<sup>69</sup> people, a 9.3 percent increase from the City's 2018 population of 9,134.<sup>70</sup>

The General Plan Housing Element has projected a City population of 12,000 by 2025. The project would represent approximately 30 percent of the projected residential population growth from 2018 to 2025. The project site lies within the City's Urban Growth Boundary and Sphere of Influence, and

<sup>65</sup> California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2018 with 2010 Census Benchmark.

<sup>66</sup> City of Cloverdale. Housing Element Update. December 10, 2014.

<sup>67</sup> Ibid.

<sup>68</sup> Ibid.

<sup>69</sup> Calculation: 305 housing units x 2.77 persons/household = 845. Though the project would develop 304 instead of 305 units, 845 residents was used as a conservative estimate.

<sup>70</sup> California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2018 with 2010 Census Benchmark.

is currently designated for a mixture of urban land uses and would be redesignated for full residential development. As such, while the project would represent a significant portion of projected residential growth, the project's development and resulting population increase was included in the General Plan Housing Element projections.

In addition, Cloverdale's share of the 2014-2022 Regional Housing Needs Assessment (RHNA) is 211 dwelling units, including 29 low-income units. The project would provide 304 new housing units including at least 92 low-income units (30 percent). As a result, the project would contribute to the City of Cloverdale's housing needs established by ABAG in the RHNA. Therefore, the project would not induce substantial unplanned direct population growth within the City of Cloverdale.

Unplanned indirect population growth would occur if the project creates employment opportunities and/or removes barriers to growth not accounted for in the General Plan or considered as part of the project. For example, a project could create thousands of jobs and result in a substantial amount of people moving to the area permanently to find employment. In addition, barriers to growth include roads, water and wastewater services, and public services such as fire and police protection, schools, and hospitals.

The project would generate temporary employment opportunities during construction. These employees would be temporary and limited to the project construction period of 30 months. Approximately 10 percent of the Cloverdale labor force is composed of construction jobs, 316 people.<sup>71</sup> Given the limited time period of construction, the local labor pool would be expected to be able to serve the project. As a result, construction workers would not require permanent relocation or contribute to population growth over time.

At operation, the project would create an estimated seven permanent jobs associated with managing the properties and leasing offices. As described previously, the City of Cloverdale in 2013 had an unemployment rate of 9.3 percent. As a result, the project's expected seven jobs would be able to be filled by the existing population and would not create a substantial new increase in employment.

The area surrounding the project site is composed of industrial, single-family residential, and undeveloped land. The area surrounding the project currently contains utility infrastructure such as roads, water, wastewater, and stormwater facilities to which the project could connect. Foothill Boulevard would be extended from Sandholm Lane through the project site to meet Street A. In addition, Street A would be improved from the new intersection at Foothill Boulevard to South Redwood Highway. Extension of infrastructure to the project site would be to serve the site alone and would not remove barriers to growth. The project site is outside the City of Cloverdale's limits, but within the City's Urban Growth Boundary and Sphere of influence, and was included in the planning area of the General Plan.

Overall, while the project would result in direct population increase, the increase is consistent with expected growth and land use planning and indirect population growth would not occur. As such, impacts would be less than significant.

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<sup>71</sup> Association of Bay Area Governments (ABAG). City of Cloverdale Housing Element, Table 2.7. 2014.

**b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

**No impact.** There is only one existing home on the project site, which will remain in place. In addition, the project would result in a net increase of 304 housing units on undeveloped land and be consistent with the General Plan and RHNA. As a result, the project would not displace any people or housing necessitating the construction of replacement housing. Therefore, no impact would occur.

### Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>15. Public Services</b> <i>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:</i>				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

Cloverdale Fire Protection District provides fire services for the City of Cloverdale. The Cloverdale Fire Protection District protects over 75 square miles in northern Sonoma County, including the City of Cloverdale.

Cloverdale Police Department provides protection services for the City of Cloverdale. The Cloverdale Police Department is split into four divisions: Administration, Auxiliary Services, Communications and Records, and Field Services and Investigations. Law enforcement responsibilities include, but are not limited to, managing criminal activity, coordinating emergency services, issuing permits, and providing public information. The Dispatch Unit staffs five full-time Public Safety Dispatchers/Records Technicians. The Patrol Division staffs three sergeants and 10 officers, and runs a K-9 Unit. The Police Station is approximately 2 miles north of the project site.

Cloverdale Unified School District (CUSD) provides education throughout the City of Cloverdale. CUSD serves a maximum of 1,480 students at its four schools: Jefferson Elementary School (pre-K–4), Washington School (5–8), Cloverdale High School (9–12), and Johanna Echols–Hansen Continuation High (11–12). The closest school to the project site is Washington School, located approximately 1.5 miles to the north. From correspondence with CUSD Administration, the CUSD as a whole is near capacity.<sup>72</sup> While each campus has plans to construct new classroom buildings, they are only to replace old, temporary facilities.

The City of Cloverdale maintains 44.3 acres of active use parkland including several different types of parks with various uses. Sonoma County Regional Parks and the City jointly manage 58.2 acres of passive open space. The closest parkland to the project is Furber Park, approximately 0.6 mile northwest of the site. Section 16, Recreation, details City parks and recreational facilities at greater length.

<sup>72</sup> Email correspondence with Kathleen Bunting, Executive Assistant, Cloverdale Unified School District (CUSD). April 4, 2019.

The Cloverdale Regional Library is part of the Sonoma County Library System, and is approximately 2.1 miles north of the project site. Cloverdale Regional Library was recently “refreshed” in late 2016, receiving new carpet, furnishings, technology, seismic bracing, and an Americans with Disabilities Act (ADA) upgrade for the parking lot.<sup>73</sup>

**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?**

**Less than significant impact.** The Cloverdale Fire Protection Station (301 Sunrise Drive) is located 1.6 miles to the north of the project site. The CAL FIRE Sonoma Lake Napa Unit—Cloverdale (1001 South Cloverdale Boulevard) is located approximately 0.61 mile northwest of the project site. The Cloverdale Fire Protection District and CAL FIRE have an aid agreement, and this unit could also respond to fires at the project site.<sup>74</sup> According to the Cloverdale Fire Protection District, the project is located in excess of an 8 minute response time from the nearest fire station, which exceeds local and national standards for fire service delivery.<sup>75</sup> These are existing conditions which are not caused by the project. The Cloverdale Fire Protection District notes that traffic signal pre-emption (opticom or compatible) shall be provided on any new traffic signals serving this development. The project does not require the installation of a new traffic signal. However, the project would be required to pay Fire Protection District development impact fees consistent with Municipal Code Section 17A.04.020. These fees would be used to pay for operations and fire protection facilities or equipment including those necessary to decrease response times, which would improve the Fire Protection District’s ability to provide services.

The project would be accessed via four driveways with a minimum width of 20 feet, which would provide sufficient width and turning radii consistent with Cloverdale Municipal Code Chapter 15.14 Section 503.2.1, 503.2.3, and 503.2.4. The General Plan “Implementations PS 1-5” requires the Community Development Department to ensure that proposed development would provide adequate emergency vehicle access.

Additionally, consistent with the General Plan Public Health and Safety Element and Municipal Code all new construction would be required to meet California Fire Code requirements for fire detection and suppression. Furthermore, the project would be provided adequate water supplies during, normal, dry, and multiple dry years, which would ensure sufficient water is available for fire protection services. Therefore, impacts would be less than significant.

<sup>73</sup> Sonoma County Library. 2019. Cloverdale Regional Library. Website: <https://sonomalibrary.org/locations/cloverdale-regional-library>. Accessed April 11, 2019.

<sup>74</sup> Sonoma Local Agency Formation Commission. 2014. Zone 6 Fire Municipal Service Review. Table 1: Cloverdale Fire Protection District Profile. September. Website: <http://sonomalafo.org/WorkArea/DownloadAsset.aspx?id=2147539949>. Accessed: January 30, 2020.

<sup>75</sup> Mark Pedroia. Senior Fire Inspector, Cloverdale Fire Protection District. Personal communication: memo. December 4, 2019.



**b) Police protection?**

**Less than significant impact.** The project would likely increase demand for police services with the increase in population of approximately 845 new residents, a 9.2 percent increase from the current population. The project is consistent with the General Plan's projected population growth, and therefore the increase in police services was accounted for in the General Plan planning process. Furthermore, implementation of General Plan "Implementations PS 1-5" requires the Community Development Department to ensure that proposed development would contribute fees proportionate to project impacts in order to provide police equipment or services. Therefore, impacts to police services for the City would be less than significant.

**c) Schools?**

**Less than significant impact.** The project would result in 304 new housing units and as many as 845 new residents. The CUSD determined that the project would generate approximately 300 to 600 new students to the district and contribute to the need for additional district resources.<sup>76</sup> In order to help offset the construction or expansion of facilities, the procurement of equipment, and the hiring and training of additional personnel, the CUSD collects mandatory school facility fees on new development projects in accordance with SB 50 (Government Code § 65885) and related State laws. As part of the project entitlement process, the project applicant would be responsible for paying its fair share of these school facility fees in accordance with applicable laws. As such, while the project would result in additional school-age children, mandatory development fees would help offset potential impacts related to capacity and budget. Therefore, impacts would be less than significant.

**d) Parks?**

**Less than significant impact.** The project would likely increase park use as it would increase available housing and add approximately 845 new residents, which may increase use of existing parks and recreational facilities. The project would construct a multi-use pedestrian path along the unnamed drainage in the eastern portion of the project site, which would provide additional public park space. Additionally, the City of Cloverdale requires the payment of mandatory park fees to continue to provide park and recreation facilities as population increases. Therefore, with the payment of in-lieu park fees and the provided active public use recreational facilities, impacts to parks would be less than significant.

**e) Other public facilities?**

**Less than significant impact.** The project would create 304 new housing units and increase population, which would likely increase demand for City library services. Cloverdale Regional Library was recently updated and should be well equipped for higher demand for library services.<sup>77</sup> Therefore, impacts to library facilities would be less than significant.

## Mitigation Measures

None.

<sup>76</sup> Email communication with Kathleen Bunting, Executive Assistant, Cloverdale Unified School District (CUSD).

<sup>77</sup> MKTHINK. 2016. Sonoma County Library Facilities Master Plan. October. Page 36.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>16. Recreation</b>				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

The City of Cloverdale currently maintains 44.3 acres of active use parkland including three neighborhood and two community parks, three active use open spaces, and two community centers.<sup>78</sup> Sonoma County Regional Parks and the City jointly manage the 58.2 acres of passive open space in River Park. The General Plan established park standards of 5 acres of total active use parkland per 1,000 residents. In addition, the City set a goal of 1.5 acres of passive open space per 1,000 residents. Currently the City only provides 4.9 acres of active use parks per 1,000 residents and does not meet its active use park standard. However, the City surpassed its passive open space goal by providing 6.4 acres per 1,000 residents (in combination with County land), and does not foresee needing additional acreage for future population growth projections.<sup>79</sup>

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

**Less than significant impact.** The closest parkland to the project is Furber Park, approximately 0.6 mile northwest of the site. Furber Park is a 6-acre community park including children's play equipment, a field play area, and a snack shack.

The project would likely increase park use as it would increase available housing and add approximately 845 new residents. Cloverdale Municipal Code Section 17.20.050 and 17.20.060 details the amount of land to be dedicated for active use and/or fees to be paid by a project toward park and recreation facilities. Although the project would preserve oak woodland, this open space would not be considered active recreation area because it would not contain trails or other amenities that would allow residents to access or use the space. The project does include the creation of a publicly accessible creekside pedestrian path along the unnamed drainage on the eastern portion of the

<sup>78</sup> City of Cloverdale. May 13, 2009. Amended January 28, 2015. City of Cloverdale General Plan. Page 61.

<sup>79</sup> Ibid.

project site, which would count towards the provision of required open space in accordance with the Municipal Code. The project applicant would be required to pay the balance of in-lieu fees consistent with Municipal Code Section 17A.20.020. Therefore, impacts would be less than significant.

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

**Less than significant impact.** The project would construct 304 housing units and result in as much as 845 new residents, which would create an increase demand and use of recreational facilities. As discussed previously, the project would be required to pay in-lieu fees to the City consistent with Municipal Code Section 17A.20.020. Payment of fees would ensure the City could provide recreational services to new development and maintain existing recreational facilities. In addition, the project would develop a creekside pedestrian path along the unnamed drainage on the eastern portion of the project site. The combination of payment of in-lieu fees and publicly accessible creekside pedestrian path would ensure the project would not require the construction or expansion of new recreational facilities. Therefore, impacts would be less than significant.

## Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>17. Transportation</b> <i>Would the project:</i>				
a) Conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	The City of Cloverdale has not established a threshold with regard to VMT impact significance consistent with CEQA Guidelines Section 15064.3, subdivision (b). As a result, no impact can be determined.			
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

The transportation analysis in this section is based on a TIS prepared by W-Trans Transportation Consultants, dated May 28, 2019, and an Addendum to the Traffic Impact Study for the Baumgardner Ranch Project, dated October 16, 2019. Both documents are provided in Appendix I.

Traffic impacts are evaluated by determining the number of new trips that the project would be expected to generate, distributing these trips to the surrounding street system based on existing or anticipated travel patterns specific to the project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments. In addition, impacts to access for pedestrians, bicyclists, and transit are also addressed.

### Study Area and Periods

The study area consists of the new project streets as well as the following intersections (Exhibit 10).

- Cloverdale Boulevard/Treadway Drive
- Treadway Drive/Foothill Boulevard
- Cloverdale Boulevard/Redwood Highway Overpass
- Redwood Highway Overpass/Redwood Highway South Ramps
- Redwood Highway Overpass/Redwood Highway North Ramps
- South Redwood Highway/Sandholm Lane
- Foothill Boulevard/Sandholm Lane
- South Redwood Highway/Project Street A

While the project intersection of Foothill Boulevard/Project Street A was evaluated in terms of geometrics and right-of-way controls, an operational analysis for the intersection was not performed as there would be no conflicting movements so there would be no associated delays.<sup>80</sup>

Operating conditions during the weekday AM and PM peak periods were evaluated to capture the highest potential impacts for the project as well as the highest volumes on the local transportation network. The morning (AM) peak-hour occurs between 7:00 a.m. and 9:00 a.m. and reflects conditions during the home to work or school commute, while the PM peak-hour occurs between 4:00 p.m. and 6:00 p.m. and typically reflects the highest level of congestion during the homeward-bound commute.

## Study Roadways

**Foothill Boulevard.** This is a two-lane roadway that runs on a skewed northwest-southeast alignment in the study area, though for the purposes of this study it was assumed to run north-south. The segment to the north of Sandholm Lane is 50 feet wide and has a 12-foot travel lane, 5-foot bike lane, and 8 feet for on-street parking in each direction. The roadway has a posted speed limit of 25 mph. Based on count data collected in February 2019, the segment between Treadway Drive and Sandholm Lane has an average daily traffic (ADT) volume of approximately 710.

**South Redwood Highway.** This roadway also runs on a skewed northwest-southeast alignment in the study area and was assumed to run north-south. The roadway has a 12-foot travel lane and Class II bike lane in each direction and a posted speed limit of 35 mph within city limits and 50 mph to the south. There is a two-way left-turn lane between the Redwood Highway Overpass and approximately 185 feet south of Sandholm Lane and the segment along the Renner Petroleum property was recently widened to accommodate a future extension of the two-way left-turn lane to the south. The roadway has an ADT volume of approximately 1,380 to the south of Sandholm Lane. South Redwood Highway becomes Cloverdale Boulevard north of the Redwood Highway Overpass and is called Dutcher Creek Road south of city limits.

## Study Intersections

**Cloverdale Boulevard/Treadway Drive.** This is a tee intersection, stop-controlled on the eastbound Treadway Drive approach. There are bike lanes on all three approaches and parking is allowed on the east side of Cloverdale Boulevard. Crosswalks are provided on the north and west legs. Design plans to signalize the intersection and the adjacent intersection of Cloverdale Boulevard/Santana Drive have been prepared and construction is anticipated to occur in the near term.

**Treadway Drive/Foothill Boulevard.** This is a tee intersection, stop-controlled on the westbound Treadway Drive approach. Bike lanes are striped on Treadway Drive and Foothill Boulevard and parking is permitted on both sides of Foothill Boulevard. A crosswalk is present on the north leg.

**Cloverdale Boulevard/Redwood Highway Overpass.** This is a tee intersection, stop-controlled on the westbound Overpass approach.

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<sup>80</sup> W-Trans. Traffic Impact Study (TIS), page 4. 2019.



Source: W-Trans, April 2019

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## Exhibit 10 Project Study Area and Existing Lane Configurations

CITY OF CLOVERDALE  
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INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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**Redwood Highway Overpass/Redwood Highway South Ramp.** This is a four-legged intersection with stop controls on the southbound off-ramp approach. The south leg is the on-ramp to Redwood Highway South.

**Redwood Highway Overpass/Redwood Highway North Ramps.** This is a four-legged intersection with stop controls on the northbound off-ramp approach. The north leg is the on-ramp to Redwood Highway North.

**South Redwood Highway/Sandholm Lane.** This is a tee intersection, stop-controlled on the eastbound Sandholm Lane approach. Bike lanes are present in both directions of South Redwood Highway.

**Foothill Boulevard/Sandholm Lane.** This is a two-legged intersection with stop controls on both approaches. Bike lanes are present on Foothill Boulevard, which currently terminates at the intersection.

**South Redwood Highway/Street A.** This is a new intersection that would be constructed with the project approximately 750 feet south of Cloverdale Boulevard/Sandholm Lane.

The locations of the study intersections and the existing lane configurations and controls are shown in Exhibit 10. Exhibit 11 provides existing traffic volumes.

### Collision History

W-Trans reviewed collision history to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current 5-year period available is October 1, 2013, through September 30, 2018. The collision history is shown in Table 20. During the study period, Cloverdale Boulevard/Treadway Drive had a collision rate higher than the statewide average. Of the four collisions that occurred at this location, one was a broadside, one was a sideswipe, and the other two were vehicle-pedestrian collisions attributed to pedestrian right-of-way violations. The City has already initiated a project to signalize this intersection, which will help clarify right-of-way and enhance safety for pedestrians, thereby addressing the pattern of crashes at this location.

**Table 20: Collision Rates at the Study Intersections**

Study Intersection	Number of Collisions (2013–2018)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. Cloverdale Boulevard/Treadway Drive	4	0.23	0.18
2. Treadway Drive/Foothill Boulevard	0	0.00	0.18
3. Cloverdale Boulevard/Redwood Highway Overpass	1	0.06	0.18

**Table 20 (cont.): Collision Rates at the Study Intersections**

Study Intersection	Number of Collisions (2013–2018)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
4. Redwood Highway Overpass/Redwood Highway South Ramps	1	0.07	0.15
5. Redwood Highway Overpass/Redwood Highway North Ramps	0	0.00	0.15
6. South Redwood Highway/Sandholm Lane	0	0.00	0.18
7. Foothill Boulevard/Sandholm Lane	0	0.00	0.05
Note: c/mve = collisions per million vehicles entering <b>bold text</b> = collision rate is higher than the Statewide average			

## Transit Facilities

Sonoma County Transit (SCT) provides fixed route bus service in Cloverdale. SCT Route 60 provides 7-day services to destinations throughout the City including Cloverdale City Hall and the Santa Rosa Transit Mall with stops in Asti, Geyserville, Healdsburg, Windsor, and Larkfield. Santa Rosa Route 68 is a local route that provides weekday service in Cloverdale. An SCT Route 60 stop is located approximately 775 feet to the northeast of the project site on South Redwood Highway and a Route 68 stop is located approximately 1,600 feet to the north on Treadway Drive.

## Bicycle Facilities

The Caltrans Highway Design Manual (HDM),<sup>81</sup> classifies bikeways into three categories used by the City:

- **Class I Multi-Use Path**—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.

<sup>81</sup> California Department of Transportation. 2018. Highway Design Manual, 6<sup>th</sup> Edition.



Source: W-Trans, April 2019

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Table 21 summarizes the existing and planned bicycle facilities in the project study area.

**Table 21: Bicycle Facility Summary**

	Status Facility	Class	Length (Miles)	Begin Point	End Point
Existing	Cloverdale Boulevard-South Redwood Highway	II	1.60	Healdsburg Avenue	City Limits (South)
	Foothill Boulevard	II	1.10	Porterfield Creek Drive	Sandholm Lane
	Treadway Drive	II	0.30	Foothill Boulevard	Cloverdale Boulevard
	Redwood Highway Overpass	II	0.20	Cloverdale Boulevard	Asti Road
Planned	Cloverdale-Lake Sonoma Trail	I	5.08	Lake Sonoma	Dutcher Creek Road
	Foothill Boulevard Extension	II	0.29	Sandholm Lane	Street A
	Dutcher Creek Road	II	5.27	City Limits (South)	Dry Creek Road
	Sandholm Lane	III	0.25	Foothill Boulevard	Cloverdale Boulevard

Source: Sonoma County Transportation Authority (SCTA) Countywide Bicycle and Pedestrian Master Plan, 2014.

## Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. The existing pedestrian facilities in the study area are as follows:

- **Foothill Boulevard**—Continuous sidewalks exist on both sides of Foothill Boulevard between Sandholm Lane and West Cherry Creek Road. Curb ramps are provided at intersections, though without yellow truncated domes. Pedestrians can use the crosswalk at Treadway Drive to cross from one side of Foothill Boulevard to the other. Lighting is provided by streetlights.
- **Sandholm Lane**—Lighting is provided by overhead streetlights on the northwest side of the street, but there are no existing pedestrian facilities.
- **South Redwood Highway**—The only sidewalk in the study area is along the recently constructed Renner Petroleum property frontage. Overhead street lighting is also provided along this segment of the roadway and on Cloverdale Boulevard north of the Redwood Highway Overpass, but there are no streetlights south of the Renner property.

Would the project:

- a) **Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?**

**Less than significant impact with mitigation incorporated.** The project's associated trip generation is summarized in Table 22 and the project volumes are shown in Exhibit 12. The project is expected to generate 2,092 new trips with 152 in the AM peak-hour and 192 in the PM peak-hour. Refer to Appendix I for additional information regarding trip generation and distribution.

**Table 22: Trip Generation Summary**

Daily	AM Peak-hour	PM Peak-hour
	Total	Total
2,092	152	192

## Intersection Levels of Service

### **Existing Plus Project**

The Existing Plus Project Intersection scenario evaluates the addition of project traffic to the study area intersections. A summary of the Level of Service (LOS) calculations under this scenario is provided in Table 23. As shown in Table 23, with the addition of project related traffic, study intersections would continue to operate acceptably during the AM peak-hour. However, during the PM peak-hour, the Intersection of Redwood Highway Overpass/Redwood Highway North Ramps would operate at LOS E overall and LOS F on the stop-controlled approach, which would be considered unacceptable under Caltrans standards and a potentially significant impact. MM TRANS-1 would ensure the project is responsible for installing stop signs and associated markings on the uncontrolled Redwood Highway Overpass approaches to the intersection. Consultation with Caltrans, a responsible agency, is already underway, including preparation of an application package for the required encroachment permit. Implementation of MM TRANS-1 would reduce overall delay to an acceptable LOS C, thereby reducing impacts to a less than significant level.

**Table 23: Existing Plus Project Peak-hour Intersection Level of Service**

Intersection		Peak-hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1	Cloverdale Boulevard/Treadway Drive	AM	3.1	A	3.1	B
		PM	4.5	A	4.6	A
	<i>Eastbound (Treadway Drive) Approach</i>	AM	11.4	B	11.7	B
		PM	16.3	C	17.8	C
2	Treadway Drive/Foothill Boulevard	AM	5.2	A	4.8	B
		PM	7.1	A	6.9	A
	<i>Westbound (Treadway Drive) Approach</i>	AM	9.2	A	9.3	A
		PM	9.4	A	9.5	A

**Table 23 (cont.): Existing Plus Project Peak-hour Intersection Level of Service**

	Intersection	Peak-hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
3	Cloverdale Boulevard/Redwood Highway	AM PM	7.8 10.1	A B	8.1 11.2	A B
	<i>Overpass (Westbound) Approach</i>	<i>AM PM</i>	<i>11.4 14.8</i>	<i>B B</i>	<i>14.8 17.7</i>	<i>B C</i>
4	Redwood Highway Overpass/Redwood Highway South Ramps	AM PM	1.2 1.1	A A	1.1 1.2	A A
	<i>Southbound (Off-Ramp) Approach</i>	<i>AM PM</i>	<i>9.7 12.9</i>	<i>A B</i>	<i>9.9 13.8</i>	<i>A B</i>
5	Redwood Highway Overpass/Redwood Highway North Ramps	AM PM	6.6 23.4	A C	7.2 <b>38.8</b>	A <b>E</b>
	<i>Northbound (Off-Ramp) Approach</i>	<i>AM PM</i>	<i>10.9 33.9</i>	<i>B D</i>	<i>11.5 55.8</i>	<i>B F</i>
	With All-Way Stop Controls	AM PM	—	—	8.6 20.3	A C
6	South Redwood Highway/Sandholm Lane	AM PM	2.0 1.7	A A	3.7 2.4	A A
	<i>Eastbound (Sandholm Lane) Approach</i>	<i>AM PM</i>	<i>9.4 9.8</i>	<i>A A</i>	<i>10.2 11.0</i>	<i>B B</i>
7	Foothill Boulevard/Sandholm Lane	AM PM	7.0 6.8	A A	7.1 7.5	A A
8	South Redwood Highway/Project Street A	AM PM	—	—	2.2 1.3	A A
	<i>Eastbound (Project Street A) Approach</i>	<i>AM PM</i>	—	—	9.1 9.4	A A

**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 *italics*; **Bold** Text = deficient operation; Shaded cells = mitigated conditions  
Source: W-Trans, 2019.

**Future Plus Project**

Future traffic volumes in the study area were developed using information contained in Sonoma County's gravity demand model maintained by the SCTA (Exhibit 13). The Future Plus Project traffic conditions determined likely Future Conditions (2040) turning movement volumes at the study intersections with the addition of Future Plus Project traffic. A summary of the LOS calculations under this scenario are provided in Table 24. As shown in Table 24, under Future Conditions all intersections in the study area would operate at acceptable LOS levels except for the Redwood Highway Overpass/Redwood Highway North Ramps intersection during the PM peak hour (LOS D)



and the Northbound (off-Ramp) Approach during the PM peak hour (LOS F). The addition of project traffic volumes would further degrade LOS at this intersection and would increase delays during the PM peak-hour, which is a potentially significant impact. Implementation of MM TRANS-1 would ensure LOS is improved to LOS C during the PM peak-hour, thereby reducing potential impacts to a less than significant level.

**Table 24: Future and Future Plus Project Peak-hour Intersection Levels of Service**

	Intersection	Peak-hour	Future Conditions		Future Plus Project	
			Delay	LOS	Delay	LOS
1	Cloverdale Boulevard/Treadway Drive	AM	13.2	B	13.0	B
		PM	13.7	B	13.6	B
2	Treadway Drive/Foothill Boulevard	AM	5.3	A	5.1	A
		PM	7.3	A	7.1	A
	<i>Westbound (Treadway Drive) Approach</i>	AM	9.6	A	9.7	A
		PM	9.7	A	9.8	A
3	Cloverdale Boulevard/Redwood Highway	AM	7.9	A	9.0	A
		PM	14.5	B	17.4	C
	<i>Overpass (Westbound) Approach</i>	AM	13.0	B	18.9	C
		PM	23.4	C	29.7	D
4	Redwood Highway Overpass/Redwood Highway South Ramps	AM	1.3	A	1.3	A
		PM	1.5	A	1.6	A
	<i>Southbound (Off-Ramp) Approach</i>	AM	10.1	B	10.2	B
		PM	15.7	C	17.0	C
5	Redwood Highway Overpass/Redwood Highway North Ramps	AM	7.4	A	7.9	A
		PM	<b>32.6</b>	<b>D</b>	<b>57.3</b>	<b>F</b>
	<i>Northbound (Off-Ramp) Approach</i>	AM	11.6	B	12.2	B
		PM	<b>50.8</b>	<b>F</b>	<b>87.8</b>	<b>F</b>
	With All-Way Stop Controls	AM	8.7	A	8.9	A
		PM	16.8	C	22.1	C
6	South Redwood Highway/Sandholm Lane	AM	1.9	A	3.3	A
		PM	1.7	A	2.3	A
	<i>Eastbound (Sandholm Lane) Approach</i>	AM	9.7	A	10.6	B
		PM	10.4	B	11.1	B
7	Foothill Boulevard/Sandholm Lane	AM	7.1	A	7.1	A
		PM	6.8	A	7.4	A
8	South Redwood Highway/Project Street A	AM	—	—	1.6	A
		PM	—	—	1.0	A
	<i>Eastbound (Project Street A) Approach</i>	AM	—	—	9.5	A
		PM	—	—	9.7	A

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 *italics*; **Bold Text** = deficient operation; Shaded cells = mitigated conditions.  
Source: W-Trans, 2019.



Source: W-Trans, April 2019

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## Exhibit 12 Project Traffic Volumes

CITY OF CLOVERDALE  
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INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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Source: W-Trans, April 2019

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## Exhibit 13 Future Traffic Volumes

CITY OF CLOVERDALE  
BAUMGARDNER RANCH DEVELOPMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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## Transit Facilities

As described previously, an SCT Route 60 bus stop is located approximately 775 feet northeast of the project site on South Redwood Highway, and a Route 68 bus stop is located approximately 1,600 feet to the north on Treadway Drive. Due to the project's proximity to SCT bus stops, project residents would be within acceptable walking and biking distance of transit. The project would not include road closures that could temporarily or permanently impact transit facilities. As a result, existing transit service is adequate to accommodate the project and impacts would be less than significant.

## Bicycle Facilities

As shown in Table 21, the project would provide Class II bike lanes in both directions on the extension of Foothill Boulevard and the new project street, Street A. These bike lanes would be consistent with the SCTA Countywide Bicycle and Pedestrian Master Plan and connect the project site to Foothill Boulevard and South Redwood Highway. In addition, the project would provide 42 bicycle parking spaces on Parcel C to serve the future residents. The proposed bike lanes in combination with the existing and planned bike lanes as shown in Table 21, as well as proposed bike parking, would provide adequate access for bicyclists in the project vicinity. As a result, the project would not conflict with a program plan, ordinance, or policy regarding bicycle facilities and impacts would be less than significant.

## Pedestrian Facilities

The project would provide sidewalks along all streets within the project site as well as on the extension of Foothill Boulevard and the project frontage with Sandholm Lane. In addition, the project would provide crosswalks on:

- The east and south legs of the Foothill Boulevard/Sandholm Lane intersection;
- Across the new extension of Foothill Drive from the single-family homes; and
- Across Street A at terminus with South Redwood Highway, which would connect the existing sidewalk along the Renner property to the proposed sidewalk along the Vintners Co-op property frontage.

As a result, the project would improve the pedestrian network in the study area. In addition, project residents would be able to walk to surrounding residential areas and commercial uses on Treadway Drive. Furthermore, all curb ramps would be required to be ADA compliant. As a result, the project would not conflict with a program plan, ordinance, or policy regarding pedestrian facilities and impacts would be less than significant.

### **b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?**

**Significance conclusion cannot be determined.** In November 2017, the Governor's Office of Planning and Research (OPR) released a technical advisory containing recommendations regarding the assessment of VMT, proposed thresholds of significance, and potential mitigation measures for lead agencies to use while implementing the required changes contained in SB 743. Also in November 2017, the OPR released the proposed text for Section 15064.3, "Determining the

Significance of Transportation Impacts,” which summarized the criteria for analyzing transportation impacts for land use projects and transportation projects and directs lead agencies to “choose the most appropriate methodology to evaluate a project’s vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure.” The OPR recommends that for most instances a per service population threshold should be adopted and that a 15 percent reduction below that of existing development would be a reasonable threshold.

As noted in the OPR Guidelines, agencies are directed to choose metrics that are appropriate for their jurisdiction to evaluate the potential impacts of a project in terms of VMT. The current deadline for adopting policies to implement SB 743 was January 2020; the change to VMT was formally adopted as part of updates to the CEQA Guidelines in 2018. However, the City has not established specific local VMT thresholds, and, until the City does, there is no guidance on how to evaluate the project in terms of VMT. No determination on the significance of VMT impacts is made in this document since none is legally required.

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

**Less than significant impact with mitigation incorporated.** As shown in Table 20, all study intersections had average collision rates except for the Cloverdale Boulevard/Treadway Drive intersection. This intersection had a collision rate higher than the Statewide average for that type of intersection facility.<sup>82</sup> However, the City of Cloverdale has already initiated a project to signalize the intersection, which would help clarify right-of-way and address the pattern of crashes at this location.

W-Trans analyzed the intersections of South Redwood Highway/Street A and Foothill Boulevard/Sandholm Lane to determine if there would be adequate sight lines for future residents and automobile traffic. Sight lines were analyzed because, “at unsignalized intersections and driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle.”<sup>83</sup> If the project resulted in sight lines that were not consistent with the Caltrans HDM sight distance criteria, a significant impact could occur.

For the posted speed limit of 35 mph on South Redwood Highway to the north of Street A and 50 mph to the south, the recommended corner sight distances are 385 feet and 550 feet.<sup>84</sup> At the South Redwood Highway and Street A intersection, sight lines are clear for more than 500 feet to the north and 600 feet to the south.<sup>85</sup> As a result, the South Redwood Highway and Street A intersection would have adequate sight lines for the posted speed limits.

For the posted speed limit of 25 mph at the intersection of Foothill Boulevard and Sandholm Lane, the recommended corner sight distance is 275 feet. Sight lines at the Foothill Boulevard/Sandholm Lane intersection were determined to be clear for more than 300 feet looking north on Foothill Boulevard. When looking south from Foothill Boulevard toward the project site, trees and vegetation block sight lines where the new extension of Foothill Boulevard would be. However, these trees and

<sup>82</sup> W-Trans. 2019. Draft Transportation Impact Study, page 5.

<sup>83</sup> W-Trans. 2019. Draft Transportation Impact Study, page 23.

<sup>84</sup> Ibid.

<sup>85</sup> Ibid.



vegetation would be removed to extend Foothill Boulevard on to the project site and sight lines to the south of Sandholm Lane would be adequate.<sup>86</sup>

The project driveways on Foothill Boulevard and Street A and the street connection on Foothill Boulevard, and driveway on Sandholm lane do not yet exist, so adequacy of sight lines at these locations were evaluated based on the proposed site plan. All public streets to be created by the project would be straight and flat, so sight lines are expected to be adequate for drivers waiting on the minor street approaches, as well as for following drivers. However, any potential frontage improvements that could potentially obstruct sight lines, such as landscaping or signing, should be placed outside of the vision triangles at each access point. Additionally, should street parking be allowed on the project frontage with Sandholm Lane or Foothill Boulevard, curbs should be painted red near the driveways as necessary to ensure that parked vehicles do not restrict sight lines. These requirements are included as MM TRANS-2.

### Intersection Controls

The proposed project would create three new intersections with the extension of Foothill Boulevard and public streets developed as part of the project: 1) Foothill Boulevard/Street B, 2) Foothill Boulevard/Street A, and 3) Foothill Boulevard/Street A. The proposed project would also modify the existing intersection of Foothill Boulevard/Sandholm Lane. For Foothill Boulevard/Street A, W-Trans determined that there would be no conflicting turning movements so no controls would be necessary in the near term.

For the other three intersections (Foothill Boulevard/Street B, Foothill Boulevard/Sandholm Lane, and South Redwood Highway/Street A), W-Trans determined that refinements to the existing stops signs and associated markings are needed to facilitate circulation on and off the site, as shown in Exhibit 14. These refinements to existing and proposed stop controls are required as part of MM TRANS-3, and additional information is provided in the TIS (Appendix I). To ensure driver awareness of the proposed changes, temporary signing shall be installed on Sandholm Lane indicating that cross traffic does not stop; this signage can be removed six months after the project is occupied and drivers have become familiar with the changed pattern.

With implementation of MM TRANS-2, the project's sight lines would be consistent with sight distance criteria contained in the Caltrans HDM and the project would not substantially increase hazards to due geometric design. With implementation of and MM TRANS-3, the necessary stop controls and signage to ensure safety would be included as part of the project. Therefore, impacts would be less than significant.

#### d) Result in inadequate emergency access?

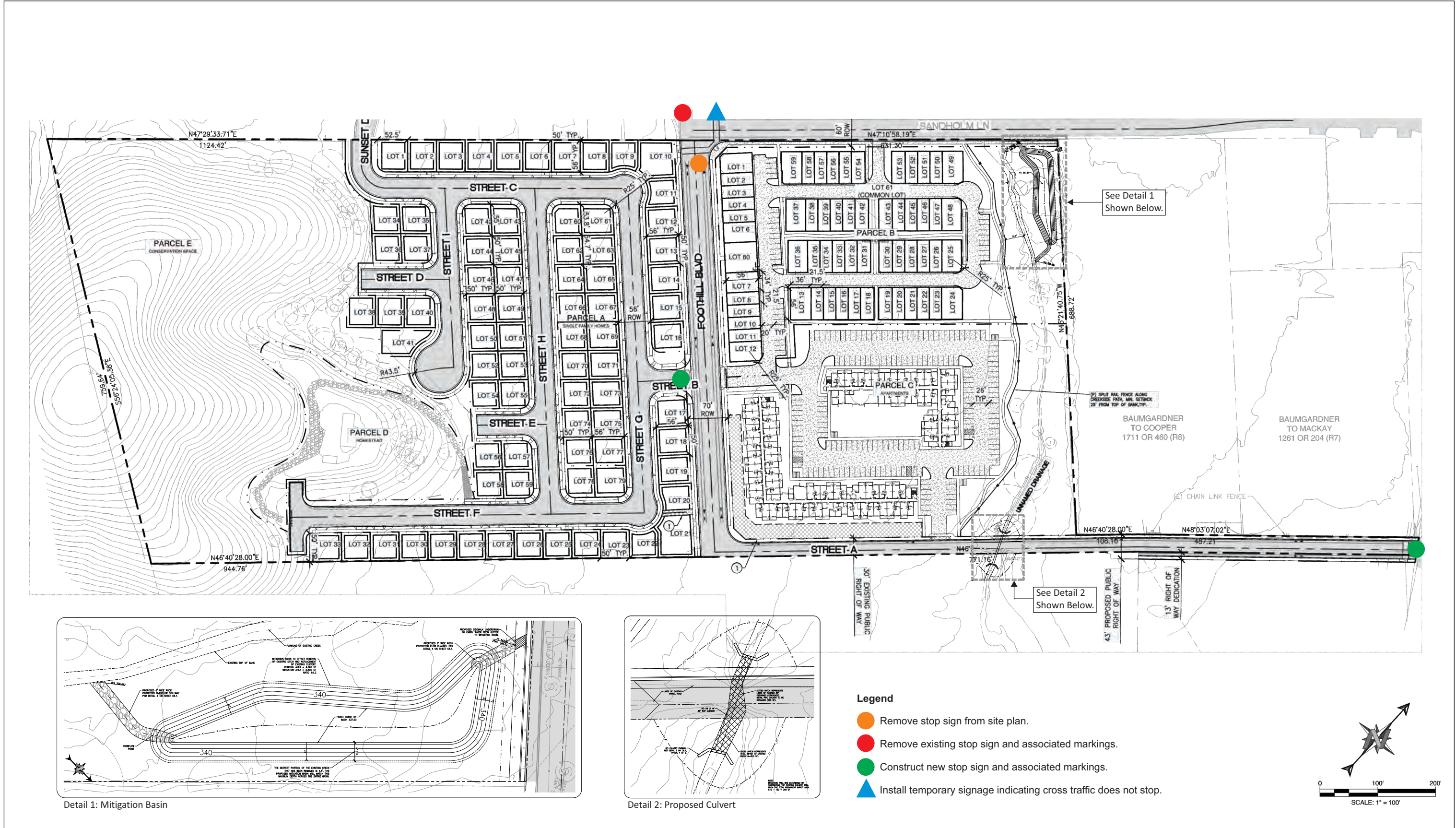
**Less than significant impact.** The project would provide more than two access points. All roadways would be subject to the California Fire Code and Cloverdale Municipal Code Chapter 15.14 requirements for roadway minimum width of not less than 20 feet. As a result, the project would

<sup>86</sup> W-Trans. 2019. Draft Transportation Impact Study, page 23.

provide at least two points of access consistent with California Fire Code standards. Therefore, impacts would be less than significant.

## Mitigation Measures

- MM TRANS-1** Prior to issuance of occupancy permits, the project applicant shall obtain an encroachment permit from Caltrans and shall complete installation of stop signs and associated markings on the Redwood Highway Overpass approaches to the intersection of Redwood Highway Overpass/Redwood Highway North Ramps consistent with Caltrans design and construction standards and approved by Caltrans traffic engineers.
- MM TRANS-2** During project operation, street parking along the Foothill Boulevard extension and street parking on either side of the driveway on Sandholm Lane should be prohibited within the vision triangle at the project access points. Any new landscaping or monuments along the project frontage should be clear between three and seven feet in height from the top of pavement to allow for unobstructed sight lines.
- MM TRANS-3** Prior to issuance of occupancy permits, the project applicant shall install, remove and/or refine stop signs and associated markings, as shown in Exhibit 14 of this IS/MND. To ensure driver awareness of the proposed changes, temporary signing shall be installed on Sandholm Lane indicating that cross traffic does not stop; this signage can be removed six months after the project is occupied and drivers have become familiar with the changed pattern. The installation and removal of these stop signs shall be consistent with the City of Cloverdale Design and Construction Standards and approved by the Engineering Department Traffic Engineer.



Source: WALSH Engineering, December 9, 2019.

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Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>18. Utilities and Service Systems</b> <i>Would the project:</i>				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

### Utility Infrastructure

Walsh Engineering provided a letter to determine the availability of existing sewer and water infrastructure that could service the project site (Appendix J). There is an existing 12-inch water line and 8-inch sewer line within Sandholm Lane directly adjacent to the north of the project boundary.

The project site contains an existing roadside drainage ditch along the northern boundary of the site and an unnamed drainage along the eastern boundary of the site. The roadside drainage ditch along the northern boundary is hydrologically disconnected from the unnamed drainage; it only collects surface runoff during storm events and does not convey water to stormwater facilities or the unnamed drainage. The unnamed drainage along the eastern boundary collects stormwater from an existing 48-inch storm drain and 36-inch storm drain contained within Sandholm Lane.

The only existing electrical power facilities on-site are located along the southern boundary of the site adjacent to Street A. The project site does not contain natural gas or telecommunications infrastructure.

## Water Supply

The City of Cloverdale obtains water from the Russian River via seven wells and has the water rights to 413 million gallons.<sup>87</sup> In 2015, the City of Cloverdale had a water demand of 344 million gallons.<sup>88</sup> Table 25 summarizes the supply and demand comparisons set forth in the 2015 UWMP for normal year, single dry year, and multiple dry year scenarios between 2020 and 2040. As shown therein, sufficient supply is expected in all scenarios through 2040.

**Table 25: 2015 Urban Water Management Plan Update Planning Assumptions**

Scenario	Category	Million Gallons				
		2020	2025	2030	2035	2040
Normal Year	Supply	458	457	457	460	463
	Demand	458	457	457	460	463
	Difference	0	0	0	0	0
Single Dry Year	Supply	479	478	479	482	485
	Demand	479	478	479	482	485
	Difference	0	0	0	0	0
Multiple Dry Year—1 <sup>st</sup> Year	Supply	469	468	469	472	475
	Demand	469	468	469	472	475
	Difference	0	0	0	0	0
Multiple Dry Year—2 <sup>nd</sup> Year	Supply	457	456	457	459	462
	Demand	457	456	457	459	462
	Difference	0	0	0	0	0
Multiple Dry Year—3 <sup>rd</sup> Year	Supply	459	458	459	462	465
	Demand	459	458	459	462	465
	Difference	0	0	0	0	0
Note: Assumed that the City can use senior water rights to supply water equal to its demand. Source: City of Cloverdale UWMP Update 2015.						

## Wastewater

The City of Cloverdale owns and operates the City's wastewater collection and treatment. The Cloverdale Wastewater Treatment Plant (WWTP) average daily flow is 0.53 million gallons per day

<sup>87</sup> City of Cloverdale. 2015 Urban Water Management Plan (UWMP). Page 8-7. 2015.

<sup>88</sup> City of Cloverdale. 2015 Urban Water Management Plan (UWMP). Page 4-1. 2015.

(mgd), average wet weather flow is 0.71 mgd, and average daily dry weather flow is 0.35 mgd.<sup>89</sup> The average daily dry weather capacity of the WWTP is 1.0 mgd with a peak dry weather capacity of 2.20 mgd and peak wet weather capacity of 8.25 mgd. The WWTP has a permitted dry weather capacity of 1.0 mgd.

## Solid Waste

Recology transports solid waste from the City of Cloverdale to landfill sites outside Sonoma County, such as Potrero Hills, Keller Canyon Landfill, and Vasco Road Sanitary Landfill. Solid waste is transferred to several landfills outside Sonoma County due to the closure of the Sonoma County Central Landfill in Petaluma.<sup>90</sup> Table 26 shows the closest landfills to the project site with the remaining total remaining capacity and daily permitted capacity.

**Table 26: Landfill Facility Detail**

Landfill	Distance from Project Site	Remaining Capacity	Daily Permitted Capacity
Potrero Hills Landfill	94 miles	13,872,000 cubic yards	4,330 tons/day
Vasco Road Sanitary Landfill	127 miles	7,379,000 cubic yards	2,518 tons/day
Keller Canyon Landfill	99 miles	63,408,410 cubic yards	3,500 tons/day
Source: California Department of Resources Recycling and Recovery (CalRecycle). SWIS Facility Detail. 2019.			

## Electric Power

Sonoma Clean Power provides the electric generation service while PG&E provides delivery of electricity through the existing grid.<sup>91</sup> The City of Cloverdale utilizes 6,652 kWh of electricity per household, per year.

## Natural Gas

PG&E provides natural gas to the City of Cloverdale. According to the Sonoma County Regional CAP, the City of Cloverdale utilizes 441 therm of natural gas per household, per year.<sup>92</sup>

## Telecommunications

Various telecommunication companies provide telecommunications to the City of Cloverdale.

<sup>89</sup> City of Cloverdale. Sewer System Master Plan Update. Page 5. June 2009.

<sup>90</sup> City of Cloverdale. General Plan Draft EIR. Page 4.12-3. 2008.

<sup>91</sup> Sonoma Clean Power. 2019. About Us. Website: <https://sonomacleanpower.org/our-vision>. Accessed June 5, 2019.

<sup>92</sup> Sonoma County. 2016. Climate Action 2020 and Beyond. Sonoma County Regional Climate Action Plan. Website: [https://rcpa.ca.gov/wp-content/uploads/2016/07/CA2020\\_Plan\\_7-7-16\\_web.pdf](https://rcpa.ca.gov/wp-content/uploads/2016/07/CA2020_Plan_7-7-16_web.pdf). Accessed April 30, 2019.



Would the project:

- a) **Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

**Less than significant impact.** As part of construction activity, the project would connect to existing water and sewer lines contained in Sandholm Lane. As described further in Impacts 18(b) and 18(c), the project would be served by sufficient water supply and wastewater capacity.

In order to reduce the release of pollutants into stormwater from construction and development the City implements an LID program to treat stormwater on-site and reduce peak stormwater flows. The project would remove the existing metal pipe culvert and replace it with a new culvert in the unnamed drainage, which would better accommodate storm flows. As described in Impact 10(c), the project would include LID design features, retain the existing unnamed drainage, and improve stormwater facilities on-site such that project related stormwater flows would not require the construction of new stormwater facilities off-site.

The project would remove an existing overhead electrical power line on the southern portion of the project site and replace it with underground power lines. These impacts would be temporary in nature and would not permanently disrupt electrical power service. In addition, the project would not remove or replace natural gas or telecommunications facilities because none currently exist on-site. As a result, the project would not require the relocation or construction of new water, wastewater, storm drainage, electrical power, natural gas, or telecommunications facilities outside of those proposed on-site and analyzed within this IS/MND. Therefore, impacts would be less than significant.

- b) **Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

**Less than significant impact.** The project's estimated 845 new residents would generate a daily water demand of 90,415<sup>93</sup> gallons.<sup>94</sup> In addition, the project's annual water demand would be 33 million gallons per year or 102 acre-feet. The project's water demand represents approximately 7 percent of the total City water demand during normal years (463 million gallons). As shown in Table 26, the City of Cloverdale would be able to accommodate water demand for the entire City during normal, dry, and multiple dry years up to the General Plan buildout date of 2040. As a result, the project would be served by sufficient water supplies during normal, dry, and multiple dry years. Therefore, impacts would be less than significant.

- 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?**

**Less than significant impact.** Currently, the WWTP has an average daily dry weather flow of 0.52 mgd and a permitted dry weather capacity of 1.0 mgd. As a result, there is a remaining capacity of 0.48 mgd

<sup>93</sup> Calculation: [(107 gallons per capita per day) x (845 residents)] = 90,415 gallons per day

<sup>94</sup> City of Cloverdale 2015 Urban Water Management Plan (UWMP). Page 5-5.

to serve the City of Cloverdale and future development. Based on a wastewater generation rate of 95 gallons per capita per day, the project's 845 new residents would generate an estimated 80,275<sup>95</sup> gallons of wastewater per day, or 0.08 mgd. As a result, there is remaining capacity at the WWTP to serve the project and the project's estimated wastewater generation represents 16 percent of the remaining capacity. In addition, the project's estimated wastewater generation represents 8 percent of the average daily dry weather capacity, 3.6 percent of the peak dry weather capacity, and 1 percent of the peak wet weather capacity. As a result, the WWTP would contain sufficient capacity to serve the project's estimated wastewater demand. Therefore, impacts would be less than significant.

**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?**

**Less than significant impact.** During construction, the project would remove existing structures for a total of 3,360 cubic yards of solid waste. As shown in Table 26, the three closest landfills would contain sufficient capacity to handle construction waste. In addition, construction waste would be temporary and therefore, would not result in a significant impact.

New housing units and associated population increase would result in an increased demand for solid waste services. The project would generate an estimated 3,730<sup>96,97</sup> pounds of solid waste a day (1.9 tons) and 1,361,450<sup>98</sup> pounds a year (680.7 tons).<sup>99</sup> As shown in Table 26, the Potrero Hills, Keller Canyon, and Vasco Road Landfills all contain sufficient maximum capacity to serve the project. In addition, the project would represent less than one percent of the landfills' daily permitted capacity.

Consistent with AB 341 and AB 1826, the project would be required to provide a recycling program that would divert recyclables and organic recyclable materials, such as yard trimmings, from landfills. Project waste diversion measures would contribute toward achieving a 50 percent waste diversion as mandated by the California Integrated Waste Management Act. As a result, the project would not generate solid waste in excess of State or local standards, or exceed the capacity of local infrastructure. Therefore, impacts would be less than significant.

**e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

**Less than significant impact.** Solid waste disposal would follow the requirements of the franchised waste hauler, Recology, which must adhere to federal, State, and local statutes and regulations related to the collection of solid waste. The project would comply with all State and local waste diversion requirements including Cloverdale Municipal Code Section 8.12.070 collection, disposal, and processing of solid waste. Because solid waste disposal would be compliant with federal, State, and local statutes and regulations, and impacts would be less than significant.

<sup>95</sup> Calculation: [(95 gallons of wastewater generated per day per person) x (845 new residents)] = 80,275 gallons per day

<sup>96</sup> California Department of Resources Recycling and Recovery (CalRecycle). 2019. Estimated Solid Waste Generation Rates. Website: <https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates>. Accessed June 6, 2019.

<sup>97</sup> Calculation: [(12.23 pounds of solid waste per household per day) x (305 housing units)] = 3,730 pounds of solid waste per day. Though the project would develop 304 instead of 305 units, but 305 was included as a conservative estimate.

<sup>98</sup> Calculation: [(3,730 pounds of solid waste per day) x (365 days a year)] = 1,361,450 pounds of solid waste a year.

<sup>99</sup> CalRecycle. Residential Sector Generation Rates. Website: <https://www2.calrecycle.ca.gov/wastecharacterization/general/rates>. Accessed April 23, 2019.

## **Mitigation Measures**

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>19. Wildfire</b> <i>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</i>				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

An SRA refers to areas of the State in which the financial responsibility of preventing and suppressing fires has been determined by the board pursuant to Section 4125, to be primarily the responsibility of the State. The project site is located in a designated moderate “Fire Hazard Severity Zone” in an SRA. A “Very High Fire Hazard Severity Zone” in an LRA means an area designated by the Director of Forestry and Fire Protection pursuant to Government Code Section 51178 that is not an SRA. The project site is not located in a designated “Very High Fire Hazard Severity Zone” in an LRA.<sup>100</sup> The closest “Very High Fire Hazard Severity Zone” in an LRA is 0.63 mile northwest of the project site across Shady Lane just outside the Cloverdale city limits.

Would the project:

**a) Substantially impair an adopted emergency response plan or emergency evacuation plan?**

**Less than significant impact.** During construction, construction vehicles and equipment would access the project site via Sandholm Lane from the Redwood Highway. The project would not require diversion routes or temporary street closures. As a result, the project would not impair emergency

<sup>100</sup> California Department of Forestry and Fire Protection (CAL FIRE). Sonoma County FHSZ Maps. Website: [http://www.fire.ca.gov/fire\\_prevention/fhsz\\_maps\\_sonoma](http://www.fire.ca.gov/fire_prevention/fhsz_maps_sonoma). Accessed May 13, 2019.

evacuation because access to the main evacuation routes in the project area, Sandholm Lane, and South Redwood Highway would still be accessible. In compliance with the General Plan Public Health and Safety Element and Cloverdale Municipal Code, the project would be consistent with the most recent version of the California Fire Code and Building Code and all roadways would be a minimum of 20 feet wide. Therefore, impacts would be less than significant.

**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?**

**Less than significant impact.** As described in the Project Description, the southwest third of the project site contains hillside oak woodlands that range up to 500 feet above MSL while the central and eastern portions of the project site contain flat, level, and undeveloped land at 340 feet above MSL with seasonal grasses and little to no trees. The project would not develop land above the 400-foot elevation line and would preserve the hillside oak woodland areas. As a result, the project would not exacerbate wildfire risks due to development on a severe slope.

The UC Davis McLaughlin Reserve, located approximately 32 miles east of the project site, is an open space reserve with a field station that monitors weather data, including average wind speeds. The McLaughlin Reserve is located in an area with a similar climate as the City of Cloverdale and as such, similar average wind speeds. At the McLaughlin Reserve/Knoxville Creek Station the average wind speed from April 2018 to April 2019 was 6.1 mph.<sup>101</sup> The project site would be expected to experience similar wind speed conditions as experienced at the McLaughlin Reserve/Knoxville Creek Station and would not be susceptible to significantly high wind speeds that could exacerbate risk due to the spread of wildfires. Given that the project site is not located in or near an area of steep terrain nor experiences consistent high winds, the project site would be not be prone to greater wildfire risk than other properties in the vicinity. Because of the growing threat of wildfire, utility service providers and local fire enforcement officers are enforcing proactive measures to protect homes and property from the threat of wildfire, including shutting down the power grid during times of high fire danger, as well as enforcement of defensible space buffers and setbacks for residential properties. Furthermore, as a condition of approval, the Cloverdale Fire Protection District requires the preparation of a vegetation management plan. Implementation of these uniformly applied standards and practices would ensure that impacts would be less than significant.

**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?**

**Less than significant impact.** All new roads would be at least 20 feet wide and consistent with the California Fire Code requirements and Cloverdale Municipal Code Chapter 15.14 Sections 503.2.1, 503.2.3, and 503.2.4. Additionally, the project would not require emergency water sources, because sufficient water supplies would be provided by the City of Cloverdale. New electrical power and natural gas lines on and connecting to the project site would be installed below ground, minimizing

<sup>101</sup> Western Regional Climate Center. 2019. Knoxville Creek California Station Daily Summary. Website: <https://wrcc.dri.edu/cgi-bin/rawMAIN.pl?caCKNO>. Accessed June 6, 2019.

potential ignition and related fire risk, in accordance with Fire District best practices. Therefore, impacts would be less than significant.

**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?**

**Less than significant with mitigation.** The project site has not been affected by previous wildfires that could have resulted in drainage changes or loss of vegetation. Although the project site contains steep slopes that range from 320 feet up to 500 feet above MSL, the majority of these slopes would be preserved as open space and as discussed under Impact 7(a). Furthermore, the project would be required to implement MM GEO-1, which would ensure that reduced cut and fill slopes and/or retaining walls are utilized to prevent potential impacts from landslides. Therefore, impacts related to flooding and landslide hazards due to post-fire slope instability or drainage changes would be less than significant.

## Mitigation Measures

Implement MM GEO-1.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>20. Mandatory Findings of Significance</b>				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

- a) **Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?**

**Less than significant impact with mitigation incorporated.** The project may result in impacts associated with air quality, GHG emissions, biological, cultural, geology and soils, hazards and hazardous materials, noise, and transportation resources that would be significant if left unmitigated. Implementation of mitigation measures as outlined in the respective sections of this IS/MND would fully mitigate all potential impacts on these resources to levels that are less than significant.



- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

**Less than significant with mitigation incorporated.** Implementation of mitigation as outlined in this IS/MND would reduce all potentially significant impacts to less than significant. Given the project’s size and impacts with associated mitigation measures, the incremental effects of this project are not considerable relative to the effects of past, current, and probable future projects. Therefore, the project would not result in cumulatively considerable impacts, and impacts would be less than significant.

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

**Less than significant impact with mitigation incorporated.** As described throughout the preceding checklist portion of this IS/MND, the project would not have any substantial environmental effects on human beings, either directly or indirectly. All impacts identified throughout this document either do not require mitigation or would be mitigated to levels that are less than significant. The proposed mitigation measures, once implemented, would ensure that no substantial adverse effects on human beings would result from the project. Therefore, impacts would be less than significant with mitigation.

## Mitigation Measures

Implement MM AIR-1, MM AIR-2, MM BIO-1a, MM BIO-1b, MM BIO-2a, MM BIO-2b, MM BIO-3, MM CUL-1, MM CUL-2, MM GEO-1, MM GEO-2, MM GHG-1, MM HAZ-1, MM HAZ-2, MM NOI-1, MM TRANS-1, MM TRANS-2, and MM TRANS-3.

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