Appendix A:

CEQA Guidelines Section 15183 Consistency Checklist

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FCS
An ADEC Innovation

Zinfandel Subdivision Project

CEQA Guidelines Section 15183 Consistency Checklist

City of Napa, Napa County, California
State Clearinghouse Number 95-03-3060

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Table of Contents

Acronyms and Abbreviations vii

1 - Introduction 1

1.1 - CEQA Assessment 1
1.2 - Summary of Results 1

2 - Project Description 3

2.1 - Project Location and Setting 3
2.2 - Project Background and Previous Environmental Review 5
2.3 - Project Description 5
2.4 - Discretionary Approvals 8

3 - CEQA Guidelines Section 15183: Projects Consistent With a Community Plan or Zoning 27

4 - Environmental Checklist 29

4.1 Aesthetics 30
4.2 Agriculture and Forestry Resources 36
4.3 Air Quality 42
4.4 Biological Resources 66
4.5 Cultural and Tribal Cultural Resources 68
4.6 Energy 79
4.7 Geology and Soils 86
4.8 Greenhouse Gas Emissions 97
4.9 Hazards and Hazardous Materials 108
4.10 Hydrology and Water Quality 117
4.11 Land Use and Planning 130
4.12 Mineral Resources 134
4.13 Noise 137
4.14 Population and Housing 146
4.15 Public Services 149
4.16 Recreation 156
4.17 Transportation 159
4.18 Utilities and Service Systems 172
4.19 Wildfire 183
4.20 Mandatory Findings of Significance 189

5 - List of Preparers 195

Appendix A: City of Napa Policy Resolution No. 27

Appendix B: Air Quality, Greenhouse Gas Emissions, and Energy Supporting Information

Appendix C: Cultural Resources and Tribal Cultural Resources Supporting Information

Appendix D: Geology, Seismicity, and Soils Supporting Information

D.1 - Geotechnical Study Report
D.2 - Stormwater Control Plan
D.3 - Erosion and Sediment Control Plan
D.4 - Paleontological Records Search

Appendix E: Hazards and Hazardous Materials Supporting Information

E.1 - Phase I Environmental Site Assessment
E.2 - Soil Trench Observations Letter

Appendix F: Hydrology and Water Quality Supporting Information

F.1 - Stormwater Control Plan
F.2 - Preliminary Detention Calculations
F.3 - Hydraulic Analysis
F.4 - Review of Stormwater Management Documentation
F.5 - Review of the Hydraulic Analysis

Appendix G: Noise Supporting Information

Appendix H: Transportation Supporting Information

H.1 - Traffic Impact Study
H.2 - Addendum to the TIS-VMT Analysis

Tables

Table 1: Project Consistency with Applicable Clean Air Plan Control Measures 45
Table 2: Preliminary Construction Schedule 51
Table 3: Construction Emissions 51
Table 4: Operational Emissions 53
Table 5: Project DPM Construction Emissions 57
Table 6: Maximum Annual Project $PM_{2.5}$ Construction Emissions 58
Table 7: Estimated Cancer Risks and Chronic Non-cancer Hazards 60
Table 8: Summary of the Cumulative Health Impacts at the MEIR During Construction 61
Table 9: Summary of the Cumulative Health Impacts at the Proposed Project Site 63

Table 10: Construction GHG Emissions – Informational Purposes Only 100
Table 11: Annual Operational GHG Emissions – Informational Purposes Only 101
Table 12: Residential and Mixed-use Project Attributes that Reduce GHGs 104
Table 13: Collision Rates at the Study Intersections 160
Table 14: Bicycle Facilities in the Project Vicinity 162
Table 15: Intersection Level of Service Criteria 163
Table 16: Existing Peak-hour Intersection Levels of Service 164
Table 17: Future Peak-hour Intersection Levels of Service 164
Table 18: Existing and Existing Plus Project Peak-hour Intersection LOS 167
Table 19: Future and Future Plus Project Peak-hour Intersection LOS 168
Table 20: Vehicle Miles Traveled Analysis Summary 169
Table 21: City of Napa Water Supply and Demand Assessment 177
Table 22: Napa County Landfill Availability 181

Exhibits

Exhibit 1: Regional Location Map 9
Exhibit 2: Local Vicinity Map 11
Exhibit 3: Flood Hazard Zone Map 13
Exhibit 4: Site Plan 15
Exhibit 5: Off-site Improvements and Right-of-Way 17
Exhibit 6: Parking Plan 19
Exhibit 7: Landscaping Plan 21
Exhibit 8a: Utility Plan–North 23
Exhibit 8b: Utility Plan–South 25

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ACRONYMS AND ABBREVIATIONS

µg/m^3	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACC II	Advanced Clean Cars II
ADA	Americans with Disabilities Act
ADU	accessory dwelling unit
AERMOD	American Meteorological Society/EPA Regulatory Model
AFY	acre-feet per year
Air Basin	San Francisco Bay Area Air Basin
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
APN	Assessor's Parcel Number
AQP	Air Quality Plan
ARB	California Air Resources Board
ASF	age sensitivity factor
BAC	Bicycle Advisory Committee
BASMAA	Bay Area Stormwater Management Agencies Association
Bay Area Air District	Bay Area Air Quality Management District
BERD	Built Environmental Research Directory
BGS	below ground surface
BMP	Best Management Practice
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration
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
CDF	California Department of Finance

CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CHL	California Historical Landmarks
CHRIS	California Historical Resources Information System
CKG	CKG Environmental, Inc.
c/mve	collisions per million vehicles entering
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
CPF	cancer potency factor
CPHI	California Points of Historical Interest
CPUC	California Public Utilities Commission
CRA	Cultural Resources Assessment
CRHR	California Register of Historical Resources
dBA	A-weighted decibel
DOC	California Department of Conservation
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EMFAC	EMission FACtors mobile source emissions model
Energy Code	Building Energy Efficiency Standards
EO	Executive Order
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
EV	electric vehicle
FAR	floor area ratio
FCS	FirstCarbon Solutions
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program

FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	Geographic Information System
GPD	gallons per day
GSP	Groundwater Sustainability Plan
HARP	Hot Spots Analysis and Reporting Program
HARP2	Hot Spots Analysis and Reporting Program Version 2
HARP-RAST	HARP Risk Assessment Stand-alone Tool
HDM	Highway Design Manual
HDR	High Density Residential
HHWE	Household Hazardous Waste Element
HI	Hazard Index
HMMP	Hazardous Materials Management Plan
HOA	Homeowner's Association
HRA	Health Risk Assessment
HVAC	heating, ventilation, and air conditioning
ICC	International Code Council
in/sec	inch per second
kWh	kilowatt-hour
LDR	Low Density Residential
L_{eq}	equivalent noise/sound level
LID	Low Impact Development
lbs	pounds
L_{max}	maximum noise/sound level
LOS	Level of Service
LRA	Local Responsibility Area
MEIR	Maximally Exposed Individual Resident
MERV	Minimum Efficiency Reporting Values
MIR	Maximally Impacted Sensitive Receptor
MLD	Most Likely Descendant
MMS	Modified Mercalli Intensity Scale
MND	Mitigated Negative Declaration
mph	miles per hour
MRP	Municipal Regional Permit
MRZ	Mineral Resource Zone

MS4	Municipal Separate Storm Sewer Systems
MT	metric tons
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NapaSan	Napa Sanitation District
NCSPPP	Napa Countywide Stormwater Pollution Prevention Program
NFD	City of Napa Fire Department
NO_X	nitrogen oxides
NPD	Napa Police Department
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRWS	Napa Recycling and Waste Services
NVT	Napa Valley Transit
NVUSD	Napa Valley Unified School District
NWIC	Northwest Information Center
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OHWM	ordinary high water mark
OPR	California Governor's Office of Planning and Research
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
PHEV	plug-in hybrid-electric vehicle
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PPV	peak particle velocity
PQP	Public/Quasi-Public
REL	Reference Exposure Level
RGH	RGH Consultants
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
RUL	Rural Urban Line

SB	Senate Bill
SCS	Sustainable Communities Strategy
SGMA	Sustainable Groundwater Management Act
SLF	Sacred Lands File
SMARA	Surface Mining and Reclamation Act
SR	State Route
SRA	State Responsibility Area
SRRE	Source Reduction and Recycling Element
STA	Solano Transportation Authority
SWITRS	Statewide Integrated Traffic Records System
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRF	Soscol Water Recycling Facility
TAC	toxic air contaminant
TAZ	traffic analysis zone
TCM	Transportation Control Measures
TCR	Tribal Cultural Resource
UBC	Uniform Building Code
UGB	Urban Growth Boundary
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VINE	Napa Valley Intercity Neighborhood Express
VMT	Vehicle Miles Traveled
WDR	Waste Discharge Requirement
WEAP	Worker Environmental Awareness Program
ZEV	Zero-Emission Vehicle

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1 - INTRODUCTION

This checklist and attached supporting documents (Consistency Checklist), have been prepared to determine whether and to what extent the Zinfandel Subdivision Project (proposed project) is consistent with the development density established by the 2020 General Plan, for which the City of Napa certified a Final Environmental Impact Report on December 1, 1998 (2020 General Plan FEIR) (State Clearinghouse [SCH] No. 95-03-3060), or whether there are project-specific significant effects which are peculiar to the proposed project or its site requiring additional environmental review.

1.1 - CEQA Assessment

The following Consistency Checklist has been prepared pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15183 (Projects Consistent with a Community Plan or Zoning) to determine whether the proposed project requires additional environmental review.

Where substantial evidence demonstrates a project's environmental effects were studied in the 2020 General Plan FEIR or can be addressed through uniform policies and procedures, CEQA Guidelines Section 15183 mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which a Final EIR was certified (in this case, the Zinfandel Subdivision Project) shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site.

Impacts that are determined in the Consistency Checklist to be peculiar to the project or parcel may be evaluated in a streamlined Mitigated Negative Declaration (MND) if impacts can be reduced to below a level of significance. If effects would be significant and unavoidable, an EIR limited to evaluating those impacts that are peculiar to the parcel or project would be appropriate. This Consistency Checklist will identify any topical areas that may require further project-specific analysis consistent with Section 15183. Topical areas that do not have project-specific peculiar impacts are identified in this Consistency Checklist as being exempt from further review.

1.2 - Summary of Results

The Consistency Checklist confirms that the proposed project's potential impacts on all environmental factors, except biological resources, have been previously analyzed and mitigated as needed, consistent with the 2020 General Plan and other regulatory frameworks. Therefore, these topics are exempt and no further review is required for these areas.

Focused environmental review will be conducted to address potential project impacts to biological resources and to identify mitigation measures required to reduce potentially significant impacts to a less than significant level. The City has determined that this subsequent analysis of biological resources will be summarized in an MND.

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2 - PROJECT DESCRIPTION

2.1 - Project Location and Setting

2.1.1 - Project Location

The proposed project is located on an approximately 9.56-acre site located at 1583 and 1687 El Centro Avenue in the City of Napa (City), in Napa County (County), California (Exhibit 1). The project site corresponds to Assessor's Parcel Numbers (APNs) 038-361-009 and 038-361-010. Regional access is provided by State Route (SR) 29, which is approximately 0.22 mile west of the project site.

The project site is bounded by El Centro Avenue to the north, Salvador Channel to the south, and single-family homes to the east and west. The single-family residence located at 1657 El Centro is not part of the proposed project and is excluded from the project boundary (Exhibit 2). The project site is located on the *Napa, California* United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Map (Latitude 38° 18'15.19" N, Longitude 122° 19'08.48" W).

2.1.2 - Existing Development and Land Use Activities

The project site is currently developed with vineyards and also contains one single-family residence, a detached garage, small outbuildings, and a driveway connecting to El Centro Avenue. Salvador Channel runs through the southern portion of the project site, separating approximately 1.07 acres from the main project site. A pedestrian bridge in the southeastern portion of the project site crosses Salvador Channel, providing access to the southernmost portion of the project site. Aside from the vineyards and structures, the project site currently contains native oak trees and landscape fruit trees near the Salvador Channel and residence. Additionally, roughly half of the site is located within the Federal Emergency Management Agency's (FEMA's) National Flood Hazard Zone AE, which represents an area with a 1 percent chance of flooding annually (Exhibit 3).

2.1.3 - General Plan and Zoning Designations

The project application was deemed complete by the City on July 1, 2021, prior to adoption of the 2040 General Plan. Pursuant to Government Code Section 66474.2, the application is subject to the ordinances, policies, and standards in effect when the application was deemed complete. Therefore, the Envision Napa 2020 General Plan (2020 General Plan), adopted on December 1, 1998, applies to the proposed project, and the land use designations in the City of Napa 2040 General Plan (2040 General Plan), adopted on October 18, 2022, are not applicable. Accordingly, references in this document are to the 2020 General Plan.

The project site has a land use designation of Single-Family Residential (SFR-20) in the operative 2020 General Plan.[1] The SFR-20 designation provides for detached single-family homes, second units, planned unit and cluster developments, mobile homes, manufactured housing, and compatible uses, such as day care and residential care facilities. Residential densities range from four to eight dwelling units per acre. The proposed project would have a housing density of approximately 5.33 dwelling units per acre, which is within the identified range.[2]

The site is zoned Single-Family Residential with a minimum lot size of 4,000 square feet (RS 4).[3] The RS 4 zone implements the single-family residential category of the General Plan and applies to areas intended to develop into a single-family detached unit pattern. RS areas typically include custom home subdivisions on hillsides or constrained sites; the presence of Salvador Channel across the southern portion of the site constrains the potential for development. This district provides opportunities for low-density detached single-family homes, accessory dwelling units (ADUs), clustered and planned developments, mobile homes, manufactured housing, and compatible uses, such as day care and smaller residential care facilities.[4]

Proposed lot sizes would range from approximately 3,531 to 9,708 square feet. To meet the minimum lot size requirements of the RS 4 zone (4,000 square feet), the applicant requests approval for the use of Small Lot Development Standards for nine of 51 proposed lots. This would allow the proposed project to achieve the required density given the site constraints, which include the parcel shape and the need to observe required setbacks from Salvador Channel. Setbacks would be consistent with Section 17.52.110 of the City of Napa Municipal Code (Napa Municipal Code), which pertains to creek setbacks, and with Section 17.52.470, which pertains to small lots (less than 4,000 square feet in size).

2.1.1 - Surrounding Land Uses

The project site is surrounded by the following land uses:

North: El Centro Avenue; single-family residential properties lands designated as Low Density Residential (LDR) and zoned Single-Family Infill with a minimum lot size of 4,000 square feet (RI 4) and Single-Family Residential with a minimum lot size of 5,000 square feet (RS 5). Additionally, multi-family residential properties zoned as Multi-Family Residential (RM) are located to the northwest, and Willow Elementary School is located to the northeast on land zoned Public/Quasi-Public (PQP).

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1 City of Napa. Envision Napa 2020: City of Napa General Plan, Land Use. December 1, 1998.

2 Calculated by dividing 9.7 acres by 51 lots. 9.7 acres represents the acreage of the project site which would be developed under the proposed project because one existing single-family home would be retained.

3 City of Napa. Zoning Map. Website: https://cityofnapa.maps.arcgis.com/apps/webappviewer/index.html?id=85c06f646a1e4896a9099dc1076ea217&extent=13645050.4719%2C4607164.0679%2C-13578359.1647%2C4638197.5014%2C102100. Accessed May 7, 2025.

4 City of Napa. 2022. Municipal Code 17.08.010 Specific purposes. Website: https://ecode360.com/43396456#43396456. Accessed May 7, 2025.

South: Salvador Channel; single-family residential properties designated as LDR and zoned RI 4 and RS 5.

East: Single-family residential properties designated as LDR and zoned RS 4.

West: Multi-family residential properties designated as High Density Residential (HDR) and zoned RM.

2.2 - Project Background and Previous Environmental Review

2.2.1 - General Plan

The City prepared and adopted the 2020 General Plan on December 1, 1998, which is an update from its 1982 General Plan providing policy guidance and implementation strategies to meet future planning needs for the City. The 2020 General Plan consists of two documents: the Draft Policy Document, which presents goals, policies, and implementation programs for each of the General Plan elements to guide future development within the City's planning area over the next 25 years; and the Draft Background Report, which outlines existing conditions for each General Plan element with an understanding for the policies and programs presented in the Draft Policy Document. As previously mentioned, the application for the proposed project was completed prior to the adopted on the 2040 General Plan and the application is subject to the goals, policies, and implementation programs of the 2020 General Plan.

2.2.2 - General Plan Environmental Impact Report

The City certified a Program FEIR for implementation of the 2020 General Plan to evaluate the significant environmental effects on adopting and implementing the 2020 General Plan. The 2020 General Plan FEIR provides baseline environmental information and evaluates the potential environmental impacts for foreseeable future development that may occur with implementation of the 2020 General Plan without site plans associated with those future projects. The City may use the 2020 General Plan FEIR when making decisions that implement the policies and programs identified in the 2020 General Plan and to prepare any additional environmental documents.

2.3 - Project Description

2.3.1 - Development Summary

The project applicant, Crown Realty Property Management, proposes to develop a 51-lot subdivision containing 51 single-family homes, 12 ADUs, 10 junior ADUs, and related improvements on approximately 9.56 acres (Exhibit 4). The 51 lots would be developed into two distinct areas separated by the Salvador Channel. The northern area is significantly larger and would contain 49 of the residential lots while the smaller southern area would contain the remaining two residential lots.

The existing single-family dwelling, the detached garage, and the private pedestrian bridge on-site would be demolished. Additionally, the existing vineyards on the project site would be removed, as well as 29 trees.

The proposed project would also include various off-site improvements (Exhibit 5) totaling approximately 1.3 acres including:

- Creation of a terrace along the channel's northern and southern bank and two stormwater outfalls above the channel's ordinary high water mark (OHWM).
- Construction of an 8-foot-wide walking trail along the southern side of Salvador Channel with 2-foot-wide shoulders on each side (replacing an existing informal walking path) connecting to a future Class I trail planned along Salvador Channel between Jefferson Street and SR-29.
- Dedication to the City of a 10-foot-wide right-of-way along the El Centro frontage, totaling approximately 0.17 acre. Improvements along its entire frontage with El Centro Avenue consistent with the improvements that have already been made and the City's future plans for the roadway. Such improvements include widening El Centro Avenue by approximately 12 feet and providing a separate sidewalk which would improve access for pedestrians and connect the site to the surrounding pedestrian network.

2.3.2 - Design and Appearance

The proposed project would include home designs that are a combination of two styles, Urban Farmhouse and Napa Valley Contemporary. All home designs would include a mix of high-quality exterior finishes intended to complement one another and the existing traditional home styles of the surrounding neighborhood. There are a total of eight different floor plans, ranging in size from 1,004 square feet to 2,362 square feet. The proposed project would include 21 single-story homes, 30 two-story homes, 12 ADUs, and 10 junior ADUs. The 12 ADUs would range in size from approximately 384 square feet to approximately 682 square feet.

2.3.3 - Circulation

Vehicular Circulation

The northern area of the site would be accessed via a proposed residential street called Clementina Circle, which would form a loop on the south side of El Centro Avenue. The portion of the project site located south of Salvador Channel would be accessed via a private driveway extending east from Lassen Street.

Parking

Each residence would have two on-site parking spaces. Garages would have a 20-foot minimum setback from the back of the sidewalk or edge of the private driveway to provide on-site parking within driveways. A total of 244 parking spaces would be provided (Exhibit 6), which exceeds the 200

parking spaces required by the Municipal Code, Section 17.54.040. Of the 244 parking spaces, 91 would be garage spaces, 95 would be driveway spaces, and 58 would be on-street parking spaces.

Pedestrian Access

Pedestrian access would be provided via sidewalks on both sides of the proposed Clementina Circle and along the project's frontage on El Centro Avenue.

Bicycle Access

The proposed project would implement markings for Class III bike lanes along El Centro Avenue between Byway East and Jefferson Street as a condition of approval to be imposed by the City.

2.3.4 - Landscaping and Open Space

Landscaping would include trees with moderate irrigation needs, such as trident maple (*Acer buergerianum*), red maple (*Acer rubrum*), eastern redbud (*Cercis canadensis*), ginko (*Ginko biloba*), Chinese pistache (*Pistacia chinensis*), and valley oak (*Quercus lobata*) (Exhibit 7). A bioretention area would be provided in the northern portion of the project site, between Lot 19 and Lot 20. A second bioretention area would be provided in the southern portion of the project site, adjacent to Lot 50. Additionally, bioretention areas would be provided adjacent to Lot 27 and Lot 28 along El Centro Avenue. Front yard landscaping would be installed but not maintained by the Homeowner's Association (HOA). The channel and terraced areas would be landscaped, compliant with current local water district regulations.

2.3.5 - Utilities

Water and Wastewater

The proposed project would connect to existing water and sanitary sewer lines underneath El Centro Avenue for the northern portion of the project site (Exhibit 8a) and underneath Lassen Street for the southern portion of the project site (Exhibit 8b). All lots would be served by a separate gravity sewer lateral. Sewer laterals would be 4 inches in diameter with a 2 percent minimum slope to the sewer main. All sewer laterals would be a minimum of 5 feet from any neighboring property lines. Additionally, sewer laterals would not be located within driveways. All lots would be served off the water main in the streets.

Storm Drainage

Stormwater runoff from the project site would be routed to four bioretention areas. These bioretention areas would be constructed pursuant to the criteria in the Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual, providing a 6-inch ponding reservoir per BASMAA requirements, which is a sufficient depth so that the 1-year, 1-hour storm event would not reach the overflow elevations.

The following utility providers would provide services to the project site:

- Sewer: Napa Sanitation District
- Water: City of Napa Water Division
- Electricity: Pacific Gas and Electric Company (PG&E)
- Storm Drain: City of Napa
- Solid Waste/Recycling: Napa Recycling and Waste Services (NRWS)

2.3.6 - Phasing and Construction

Construction of the proposed project is anticipated to begin in late 2025 and would last approximately 18 to 36 months. Construction activities would consist of demolition, grading, underground utilities and street construction, building construction, and landscaping.

The proposed project would require that all construction equipment be maintained and tuned to meet appropriate United States Environmental Protection Agency (EPA) and California Air Resources Board (ARB) emissions requirements, including use of only Tier 4 engines in off-road equipment and cleaner heavy-duty trucks to reduce air pollutant emissions associated with the proposed project.

2.4 - Discretionary Approvals

The proposed project requires the following discretionary approvals from the City of Napa, which is the CEQA Lead Agency for the proposed project.

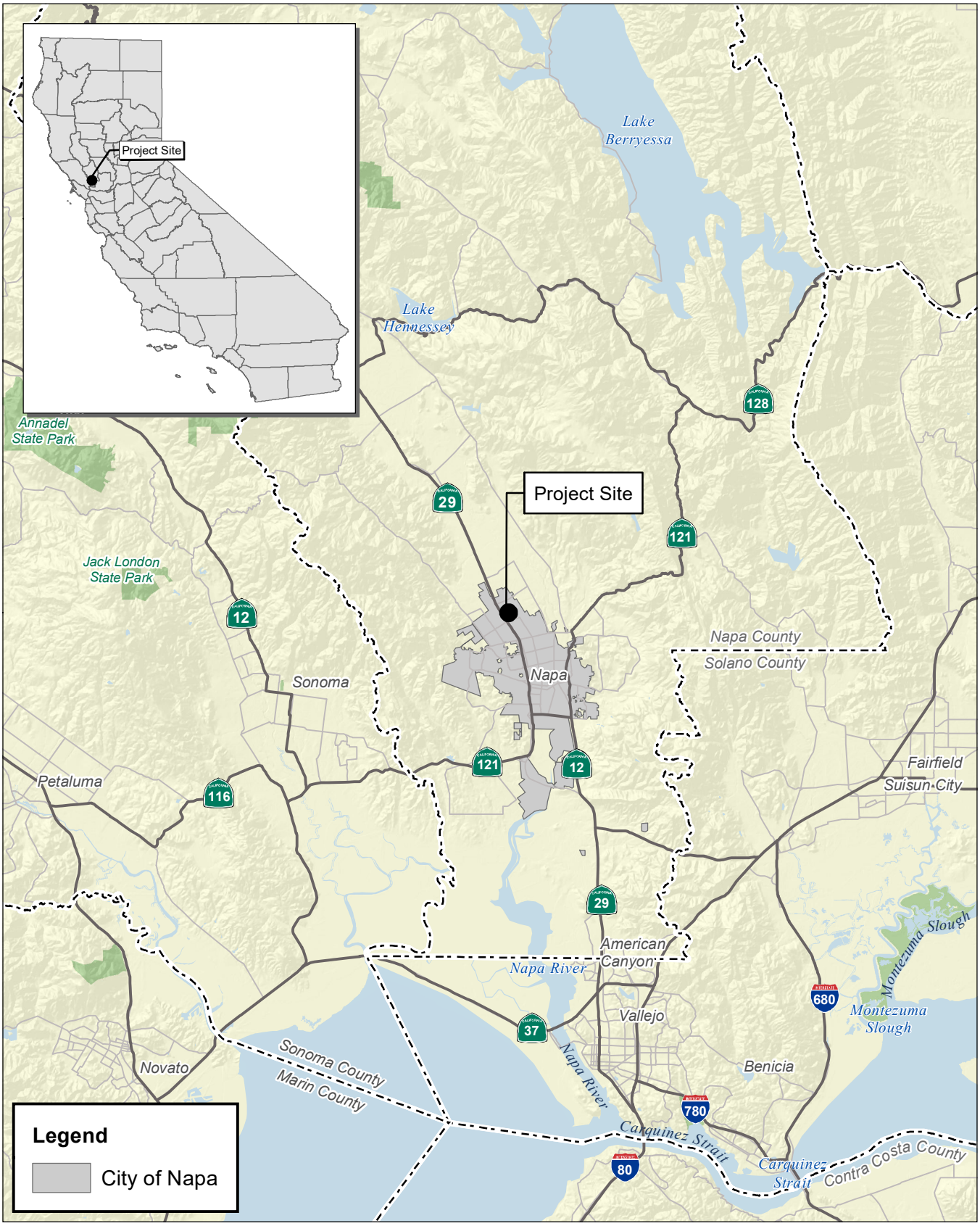
- Tentative Subdivision Map–Vesting
- Design Review Permit–Subdivision and Homes
- Use Permit–Small Lot Development

In addition, the following ministerial actions would be required by the City for implementation of the proposed project:

- Demolition permits
- Grading permits
- Building permits

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

- California Department of Transportation (Caltrans)
- California Department of Fish and Wildlife (CDFW)
- Bay Area Air Quality Management District (Bay Area Air District)
- North Coast Regional Water Quality Control Board (RWQCB)



Source: Census 2000 Data,The California Spatial Information Library (CaSIL).

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

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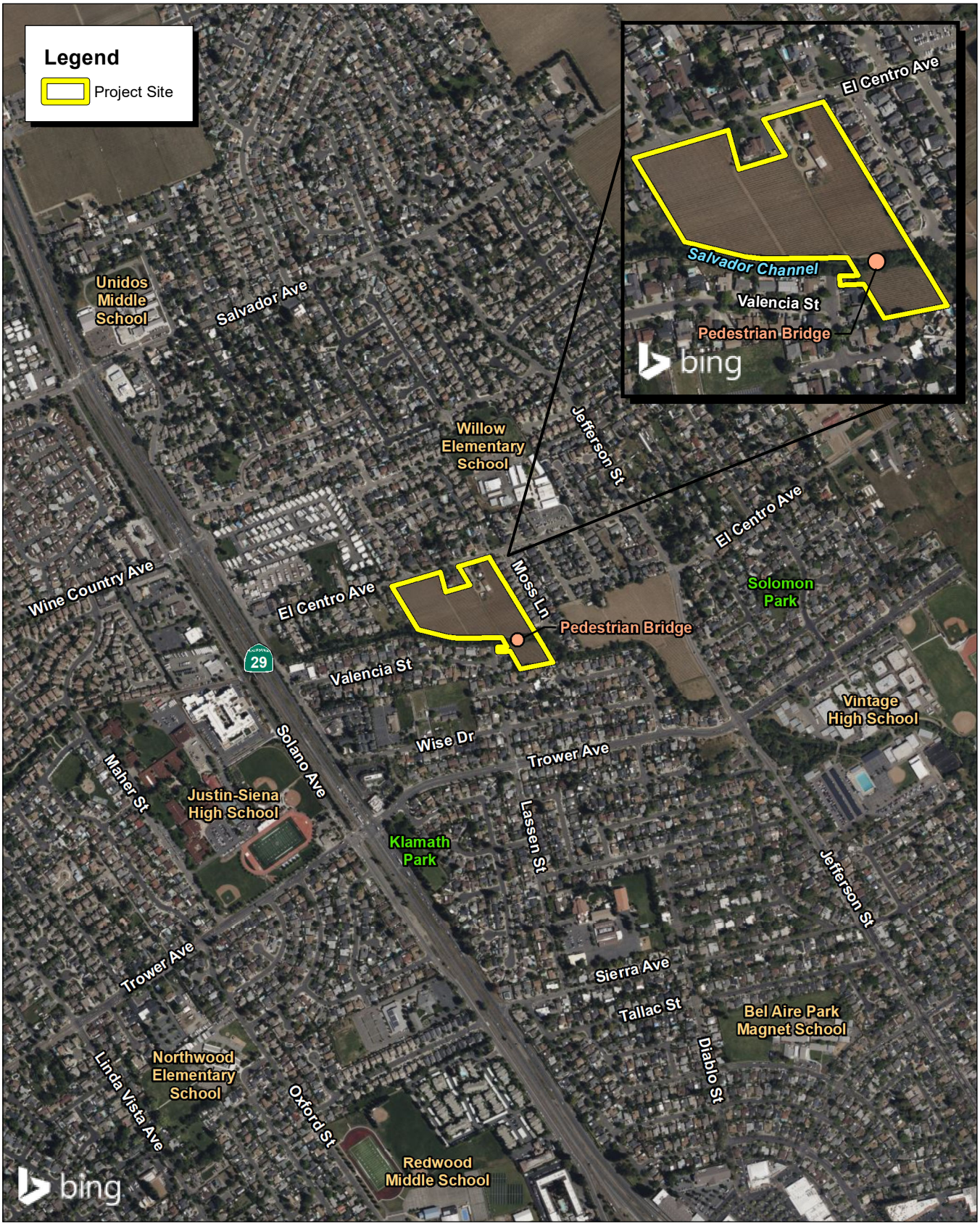

Source: Bing Aerial Imagery. RSA Consulting Civil Engineers.

1,000 500 0 1,000 Feet

Exhibit 2
Local Vicinity Map

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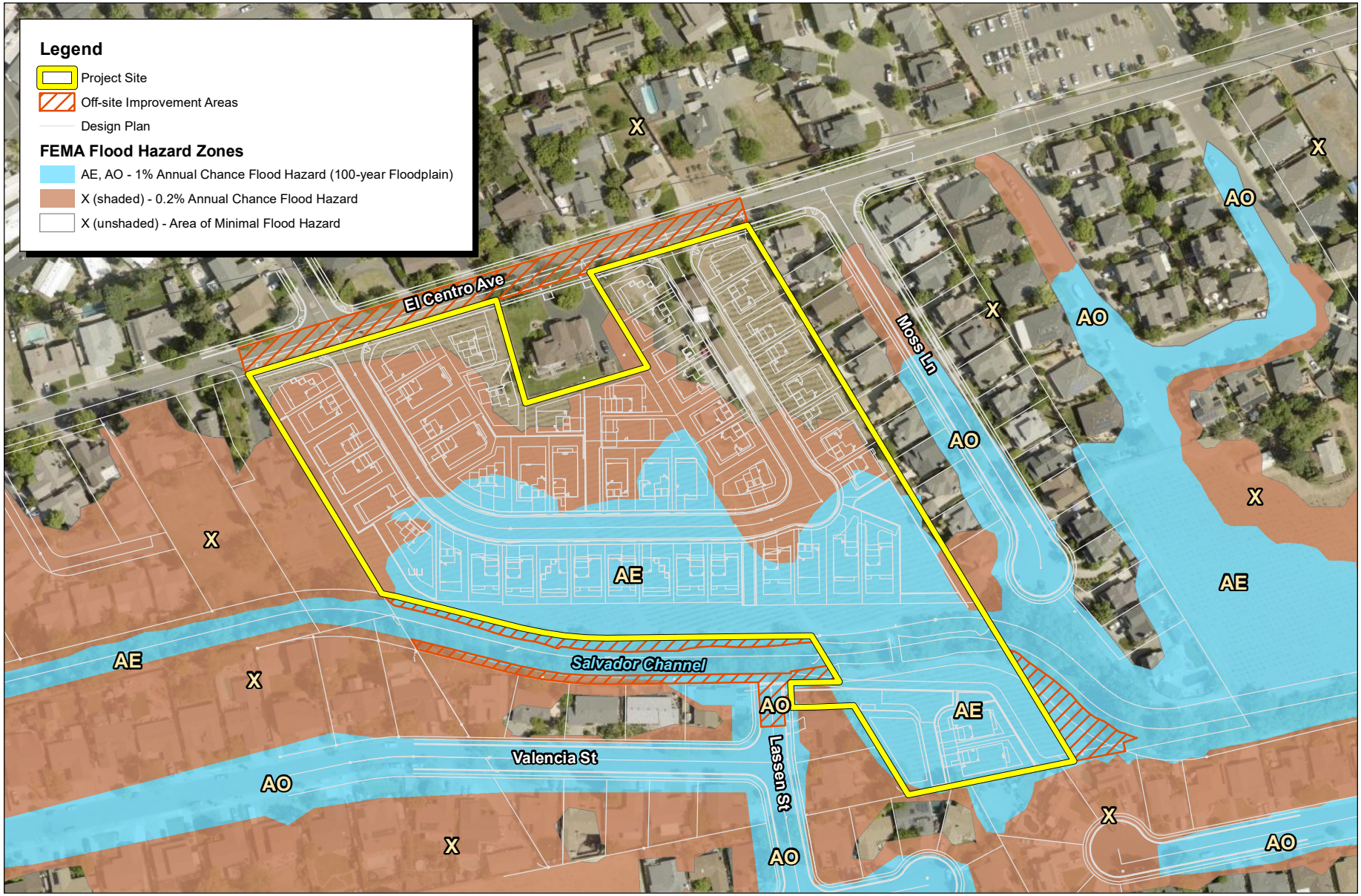

Source: ESRI World Imagery. RSA Consulting Civil Engineers. FEMA National Flood Hazard Layer (NFHL).

200 100 0 200 Feet

Exhibit 3
Flood Hazard Zone Map

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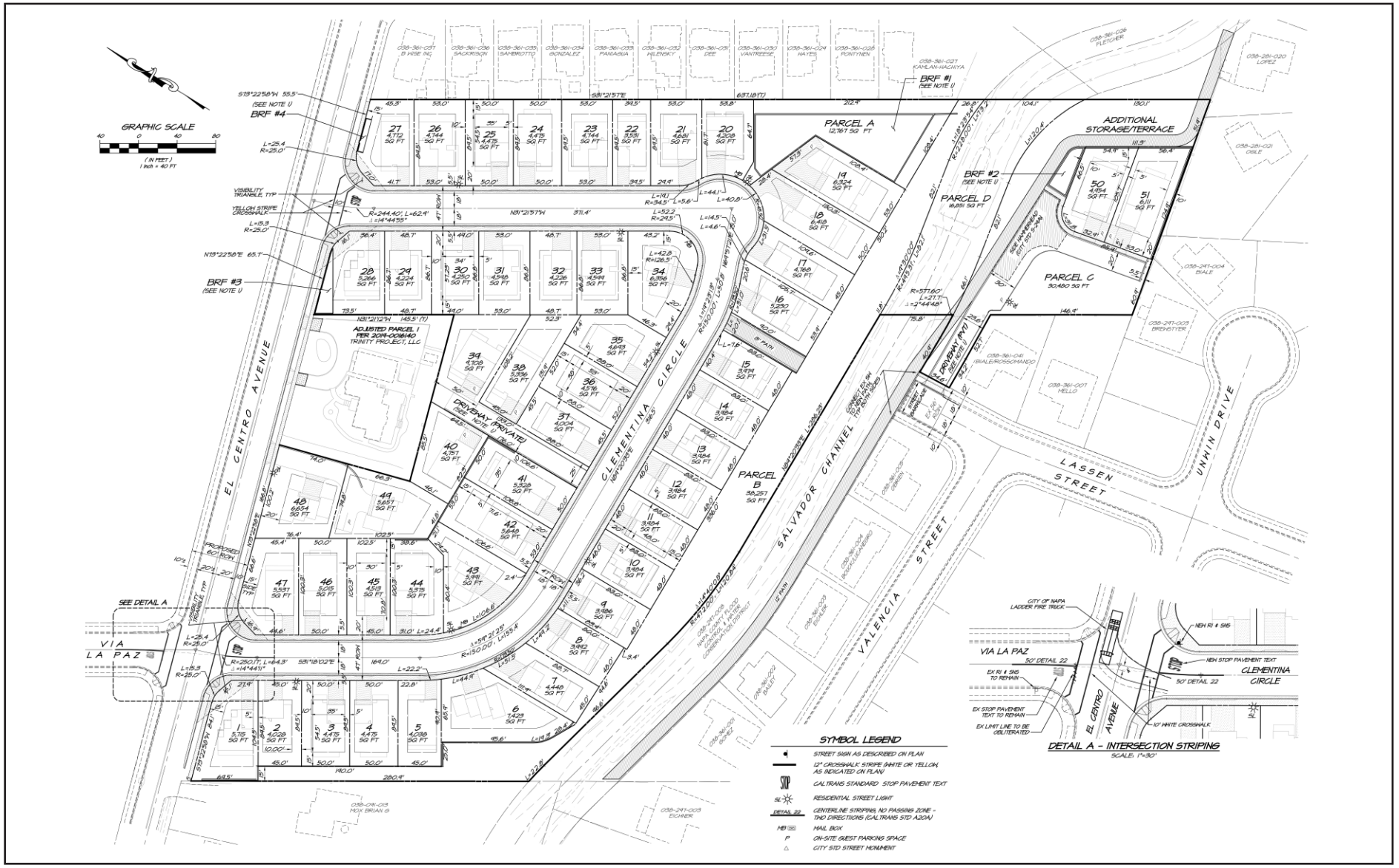

Source: RSA. Sept 15, 2023.

Exhibit 4
Site Plan

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Source: ESRI World Imagery. RSA Consulting Civil Engineers.

150 75 0 150 Feet

Exhibit 5
Off-Site Improvements and Right-of-Way

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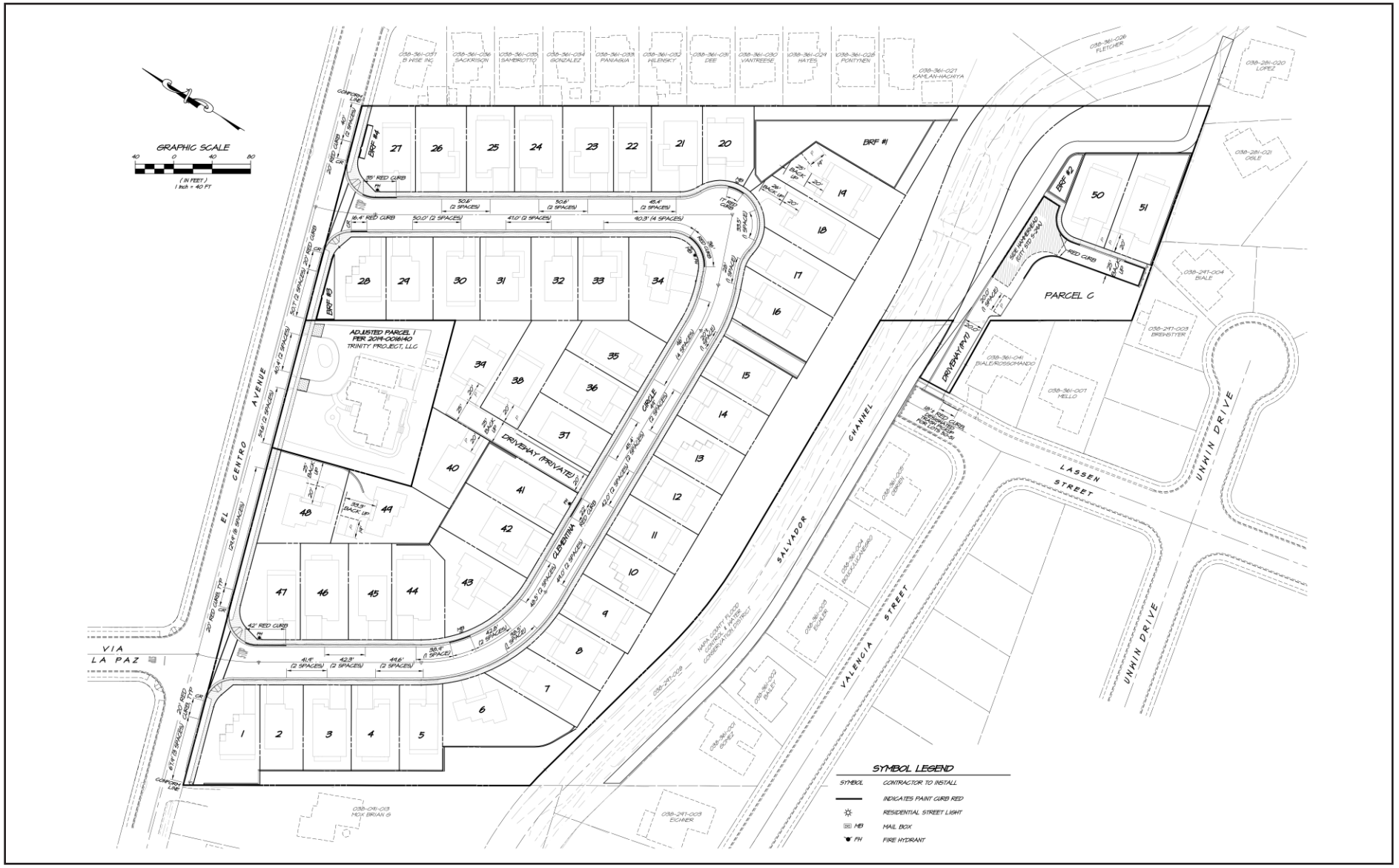

Source: RSA Consulting Civil Engineers & Surveyors, 9/15/2023.

Exhibit 6
Parking Plan

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Source: GSM Landscape Architects, Inc. Sept 15, 2023.

Exhibit 7
Landscaping Plan

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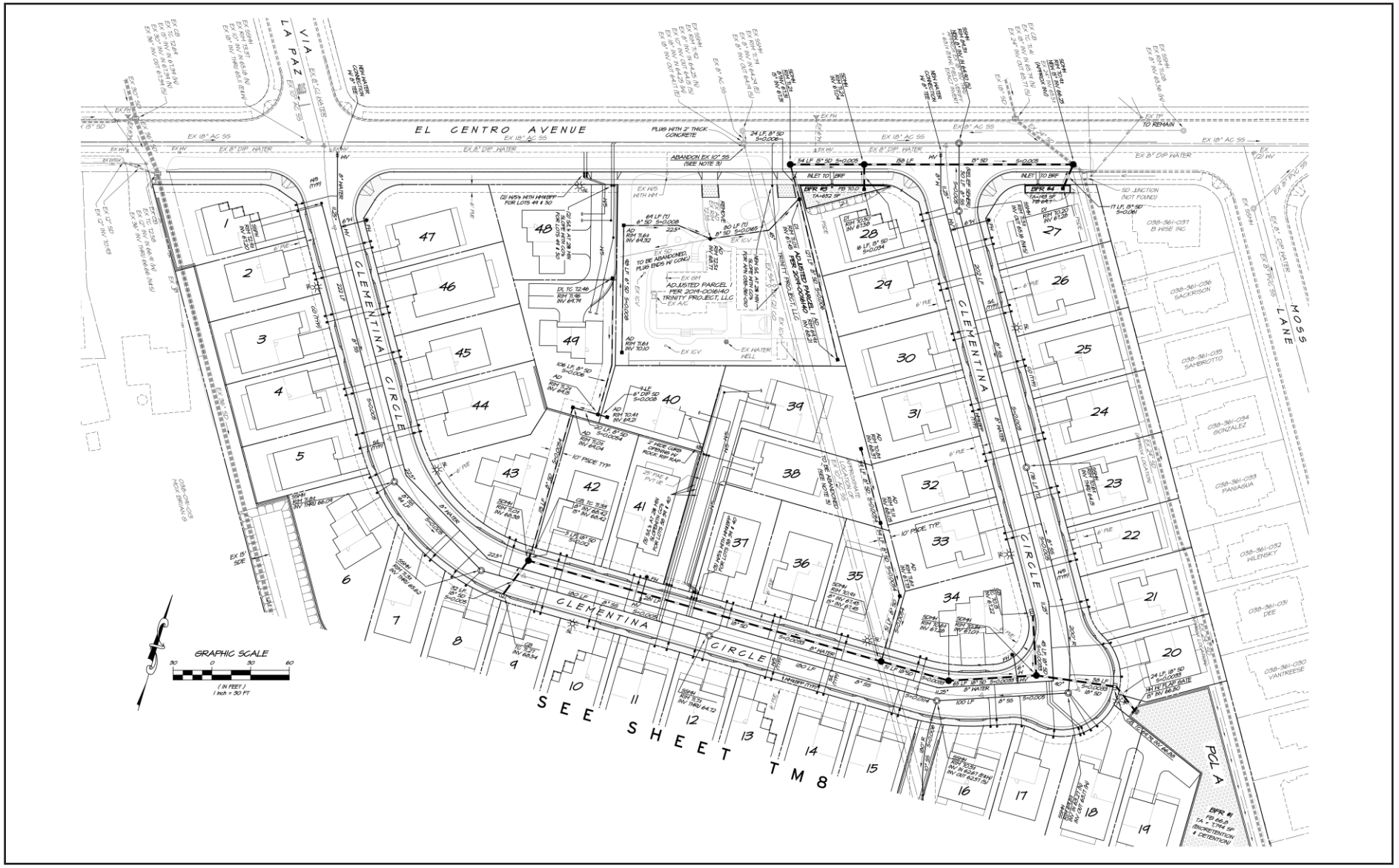

Source: RSA Consulting Civil Engineers & Surveyors, 9/15/2023.

Exhibit 8a
Utility Plan - North

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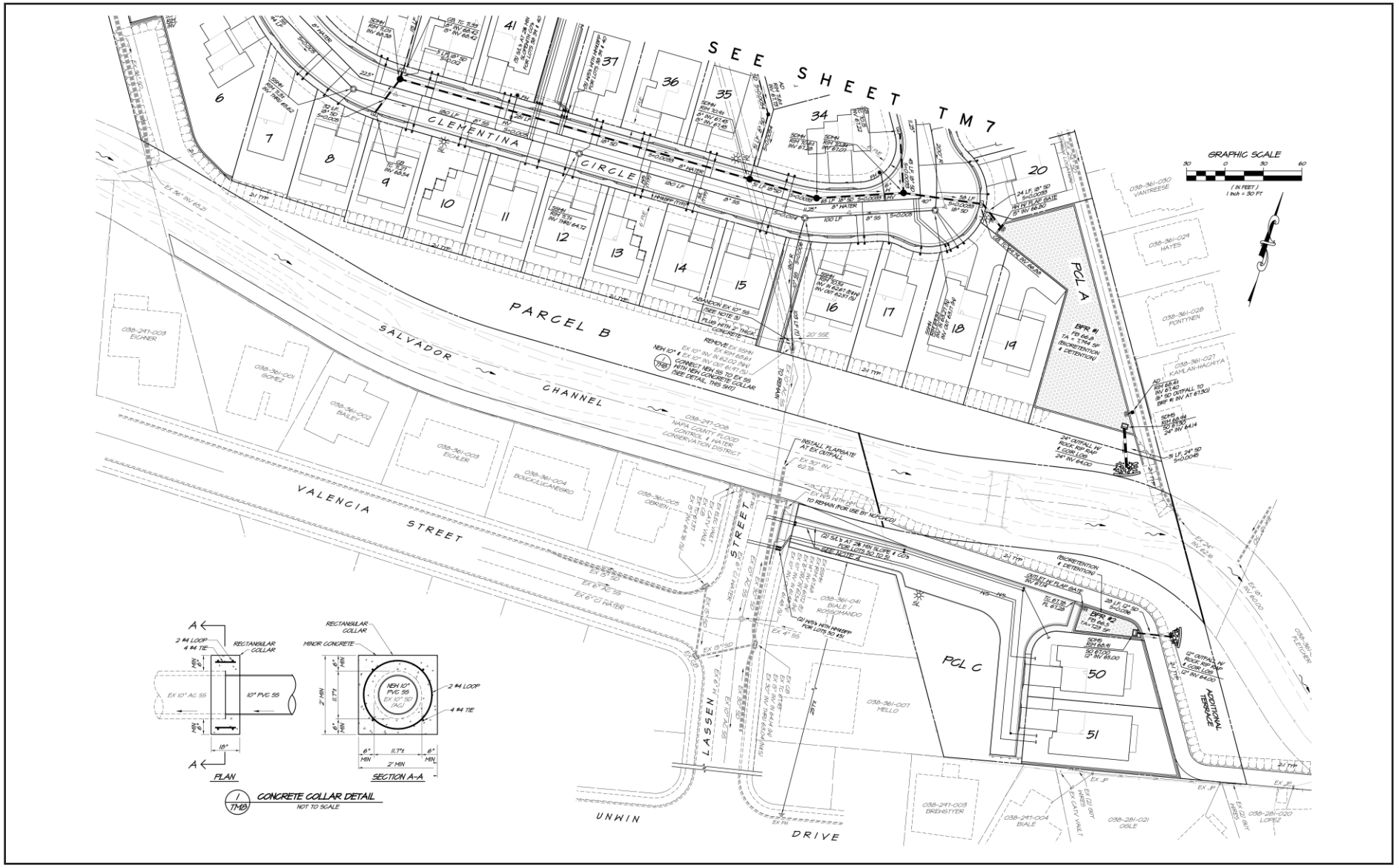

Source: RSA Consulting Civil Engineers & Surveyors, 9/15/2023.

Exhibit 8b
Utility Plan - South

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3 - CEQA GUIDELINES SECTION 15183: PROJECTS CONSISTENT WITH A COMMUNITY PLAN OR ZONING

CEQA Guidelines Section 15183 mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which an Initial Study/Mitigated Negative Declaration (IS/MND) was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. This streamlines the review of such projects and reduces the need to prepare repetitive environmental studies.

Proposed Project Qualifies for Streamlined Review under CEQA Guidelines Section 15183

CEQA Section 15183 applies to the proposed project since it meets all of the following conditions.

(d)(1)(B) The project is consistent with a zoning action which zoned or designated the parcel on which the project would be located to accommodate a particular density of development.

A project is consistent with established zoning and density if the project is the same or less than the standard contemplated for the involved parcel(s) in the general plan for which an EIR has been certified, and the project complies with the density standards contained in that plan (CEQA Guidelines § 15183(i)(2)). Density standards are expressed in various ways, including based on the number of dwelling units per acre, the number of people in a given area, floor area ratio (FAR), and other measures of building intensity, building height, and size limitations and use restrictions.

The project site is zoned Single-Family Residential with a minimum lot size of 4,000 square feet (RS 4). Proposed lot sizes would range from approximately 3,531 to 9,708 square feet. The applicant requests approval for the use of Small Lot Development Standards for nine of 51 proposed lots to achieve the required density given the site constraints, which include the parcel shape and the need to observe required setbacks from Salvador Channel. Accordingly, with implementation of the Small Lot Development Standards, the proposed project would be within this density designation and would meet the requirements of this section.

(d)(1)(C) The project is consistent with the 2020 General Plan.

The 2020 General Plan anticipates residential development under General Plan buildout and has a land use designation of Single-Family Residential (SFR-20). The SFR-20 designation provides for detached single-family homes, second units, planned unit and cluster developments, mobile homes, manufactured housing, and compatible uses, such as day care and residential care facilities. Residential densities range from 4 to 8 dwelling units per acre. The proposed project would have a housing density of approximately 5.33 dwelling units per acre, which is within the identified range.

(d)(2) An EIR was certified by the lead agency for the zoning action, the community plan, or the general plan.

The General Plan was approved pursuant to the Program EIR, certified on December 1, 1998 (State Clearinghouse [SCH] No. 95-03-3060). The proposed project is within the scope of and is consistent with the relevant provisions of the adopted General Plan and the certified Program EIR, with the exception of impacts related to biological resources. Therefore, for the purposes of this analysis, the General Plan and certified Program EIR establish and evaluate the development density and zoning for the project site. Accordingly, the proposed project meets the requirements of this section.

Accordingly, the Lead Agency may utilize this Consistency Checklist to document its decision that a subsequent environmental document is not required, except as needed to address biological issues peculiar to the proposed project.

4 - ENVIRONMENTAL CHECKLIST

CEQA Guidelines Section 15183(b) states that:

> (b) In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those which the agency determines, in an initial study or other analysis:
>
> (1) Are peculiar to the project or the parcel on which the project would be located;
>
> (2) Were not analyzed as significant effects in a prior FEIR on the zoning action, general plan, or community plan, with which the project is consistent;
>
> (3) Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior FEIR prepared for the general plan, community plan or zoning action; or
>
> (4) Are previously identified significant effects which, as a result of substantial new information which was not known at the time the FEIR was certified, are determined to have a more severe adverse impact than discussed in the prior FEIR.

The following pages of this document contain an Environmental Checklist that examines the project's potential environmental effects within the parameters outlined at CEQA Guidelines Section 15183(b). The Prior FEIR used for comparison is the 2020 General Plan FEIR certified by the City of Napa on December 1, 1998, including all impact determinations and significance thresholds utilized therein.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.1 Aesthetics *Except as provided in Public Resources Code Section 21099, would the project:*					
a) Have a substantial adverse effect on a scenic vista?	Less than significant impact	No	No	No	No
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway?	Less than significant impact	No	No	No	No
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	No	No	No	No
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	No	No	No	No

a) Scenic Vista

Would the project: Have a substantial adverse effect on a scenic vista?

Summary of 2020 General Plan FEIR

The City is located within Napa Valley on relatively flat terrain with the rolling hills and mountain ridges to the east and west providing prominent views from public vantage points including SR-29 and the Napa River area. Important visual resources in the General Plan area include natural features, such as vineyards and riparian corridors along the Napa River and its tributaries that transect many residential neighborhoods, and built features, such as four defined gateways serving as visual entrances and exits for the City and neighborhoods and districts that share similar physical features. The Prior FEIR determined that the implementation of the 2020 General Plan would enhance the visual setting in the downtown area, as well as along key gateways, scenic corridors, crucial corridors, and major roadways in the City, by developing gateway and scenic corridor design guidelines for both public and private development in the vicinity.[5] In addition, the Prior FEIR indicates that the Rural Urban Line (RUL) was delineated to prevent urbanization in the region's vineyards, hillsides, grasslands, and major marshlands and emphasizes special development standards for development within or adjacent to riparian corridors and other natural features outside of the RUL.[6] Furthermore, various policies of the 2020 General Plan, including LU-4.1, LU-4.5, LU-1.2, LU-7.4, LU-9.1, and NR-1.7, would reduce potential impacts related to aesthetics by requiring new development to be consistent with existing neighborhoods, ensuring new development is designed to minimize adverse visual characteristics, and integrating development with the City's natural environment.[7] Therefore, the Prior FEIR concluded that impacts associated with the implementation of the 2020 General Plan would be less than significant.

Proposed Project Analysis and Conclusion

A scenic vista is a viewpoint that provides a distant view of highly valued natural or manufactured landscape features for the benefit of the general public. Typical scenic vistas are locations where views of rivers, hillsides, and open space can be obtained, as well as locations where valued urban landscape features can be viewed in the distance. Scenic vistas of particular concern include the Vaca Range and Mayacamas Mountains, as well as views of agricultural fields and vineyards in the countryside adjacent to the City.[8] The proposed project includes the development of a 51-lot subdivision containing 51 single-family homes, 12 ADUs, and 10 junior ADUs. While the project site does currently contain vineyards, the proposed project is entirely surrounded by single-family residential development and would be consistent with the surrounding uses, as well as the General Plan land use designation and zoning district for the project site (SFR-20 and RS 4, respectively), which allow for single-family detached units. According to the Prior FEIR, future infill development of

[5] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.6-3 – 3.6-4. December 1.

[6] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.6-5. December 1.

[7] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.6-2 – 3.6-5. December 1.

[8] City of Napa. 2022. City of Napa General Plan Update Partial Recirculated Draft Environmental Impact Report (2040 General Plan EIR). June.

agricultural lands within the City was not considered significant in regard to scenic resources because the visual quality provided by the vineyards and open space surrounding the City would continue to provide a context and visual identity for the City.[9] As such, the proposed project's development of the existing vineyard would not cause significant impacts to the City's scenic resources. Additionally, given the relatively flat nature of the project site, and the proposed project's consistency with surrounding development, it would not block or impede views of the Vaca Range or Mayacamas Mountains. Moreover, based on a review of the Napa General Plan, the City has not identified or designated scenic vistas within or adjacent to the project site. Therefore, no impact would occur to a scenic vista. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. It would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) State Scenic Highways

Would the project: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway?

Summary of 2020 General Plan FEIR

The City does not contain any officially designated State Scenic Highways, but the Prior FEIR identified two potential scenic highway corridors within the RUL: SR-29 and SR-121. These are locally recognized as scenic corridors within the City, and portions of these roadways are eligible for State Scenic Highway registration. The Prior FEIR further identified gateways that provide visual entrances into and exits from the City, including intersections at SR-29, SR-221, and SR-121.[10] Other roadways with important scenic qualities are identified in the RUL serving as key vantage points to the natural features that define the City's visual character, including open space, rolling hills, ridgelines, and wetlands. The Prior FEIR determined that Policies LU-1.6, LU-5.2, and LU-5.8 of the 2020 General Plan would enhance scenic character of these potential scenic highway corridors.[11] The Prior FEIR concluded that impacts related to scenic resources within a State Scenic Highway would be less than significant.

Proposed Project Analysis and Conclusion

The California Scenic Highway Program was established in 1963 by the State Legislature with the responsibility of protecting and enhancing California's natural scenic beauty by identifying those portions of the State Highway System which, together with adjacent scenic corridors, require special conservation treatment. Scenic corridors consist of land that is visible from, adjacent to, and outside the highway right-of-way and is comprised primarily of scenic and natural features.[12] The City does

[9] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.6-3. December 1.

[10] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.6-4 – 3.6-5. December 1.

[11] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.6-5. December 1.

[12] California Department of Transportation (Caltrans). 2018. State Scenic Highway System Map. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed May 7, 2025.

not contain any officially designated State Scenic Highways. The nearest State Scenic Highway is a segment of SR-12 that is located 9.36 miles west of the project site. SR-12 is not visible from the project site and would not be impacted by the construction of the proposed project; as such, no impact to SR-12 would occur.

The 2020 General Plan Policy LU-1.6 indicates that SR-29, SR-121, and SR-221 are scenic gateways/corridors within the City. Specific segments of these highways are also eligible for designation as State Scenic Highways, meaning that these highways have been identified in the California Streets and Highways Code as having the potential to be designated as State Scenic Highways but have not yet received official designation.[13] The project site is approximately 0.32-mile east of SR-29, 2.23 miles west of SR-121, and 4.36 miles northwest of SR-221. Because of distance and intervening topography and structures, such as the surrounding residential neighborhoods and vegetation along the highways, the project site is not visible from any of these highways. Therefore, the proposed project would have no impact on scenic resources within view of SR-29, SR-121, and SR-221. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Visual Character

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

Summary of 2020 General Plan FEIR

The Prior FEIR identified seven neighborhood typologies requiring new residential development to remain consistent with the neighborhood typology of a project's surrounding area to maintain City's qualities and community identity. Projects would be required to include similarities in streetscape, architectural character, topography, and density to existing development to ensure that newly developed neighborhoods share the same qualities as existing neighborhoods. In addition, the Prior FEIR determined that the City would adopt land use regulations to maintain the historic patterns of housing densities. The Prior FEIR also indicated that Napa Policy Resolution No. 27 would provide policies governing scenic quality, such as requiring landscaping plans and separate architectural reviews for signage. Therefore, the Prior FEIR concluded that impacts would be less than significant.[14]

[13] California Department of Transportation (Caltrans). 2025. California State Scenic Highways. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed: July 1, 2025.

[14] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.6-2 – 3.6-3. December 1.

Proposed Project Analysis and Conclusion

The proposed project is located in an urbanized area within the City of Napa and would be consistent with the land use and zoning designations of the project site with the use of Small Lot Development Standards allowed under the State Density Bonus Law. The proposed project would also be consistent with the required density for the RS 4 zoning district and would be required to comply with Napa Policy Resolution No. 27, which requires new developments to install lighting that limits light spillage into neighboring properties, and to produce a final landscape and irrigation plan designed and signed by a licensed landscape architect or landscape contractor that specifies that all plant materials used are free of pests, and that the Agricultural Commissioner would be notified of any plant deliveries from outside the County.[15] The proposed project would also be required to comply with the architectural requirements of Napa Residential Design Guidelines and the General Plan. The Napa Residential Design Guidelines impose requirements for new developments in residential neighborhoods, including site plan requirements, grading and drainage control measures, landscaping standards, fencing and screening requirements, driveway and parking standards, and utility requirements.[16] Therefore, the proposed project would not conflict with applicable zoning or other regulations governing scenic quality, and impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

d) Light or Glare

Would the project: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Summary of 2020 General Plan FEIR

The Prior FEIR emphasized that Napa Policy Resolution No. 27 would require all new lighting from development projects to be directed downward through the use of shielding that would prevent light trespass and avoid glare. Furthermore, Napa Policy Resolution No. 27 requires that low-level lighting be utilized in parking areas. Therefore, the Prior FEIR concluded that impacts would be less than significant.[17]

Proposed Project Analysis and Conclusion

Excessive or inappropriately directed lighting can adversely affect nighttime views by reducing the ability to see the night sky and stars. Glare can be derived from unshielded or misdirected lighting sources. Reflective surfaces (i.e., polished metal) can also cause glare. Impacts associated with glare can range from simple nuisance to potentially dangerous situations (i.e., if glare is directed into the

[15] City of Napa. 2002. Policy Resolution 27. December 3.

[16] City of Napa Planning Department. 2004. Residential Design Guidelines. Website: http://www.cityofnapa.org/DocumentCenter/View/402/Residential-PDF?bidId=. Accessed May 7, 2025.

[17] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.6-3. December 1.

eyes of motorists). Light-sensitive land uses in the area may include the residential neighborhoods to the east and west of the project site.

The project site currently contains one single-family residence, a detached garage, and a driveway connecting to El Centro Avenue. Aside from structures, the project site is developed with vineyards and also has native oak trees and landscape fruit trees near Salvador Channel and the residence. The proposed project consists of removing one single-family residence and other existing structures on the project site and constructing 51 single-family residences, which has the potential to create new sources of light and glare in addition to the light from surrounding homes and car headlights on El Centro Avenue. As discussed further in Section 4.14, Population and Housing, the growth induced by the proposed project was anticipated by the General Plan. However, the proposed project would be subject to Section 17.08.040 of the Municipal Code, which specifies that in residential districts, exterior lighting shall be directed or shielded to prevent glare onto public streets and abutting residential properties.[18] Therefore, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Aesthetics, Light, and Glare, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

[18] City of Napa. 2022. Municipal Code 17.08.040 Other development standards and requirements applicable to residential districts. Website: https://ecode360.com/43396456#43396469. Accessed May 7, 2025.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.2 Agriculture and Forestry Resources *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.* *Would the project:*					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	Significant and unavoidable impact	No	No	No	No
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	Less than significant impact	No	No	No	No
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))?	Not Applicable	No	No	No	No

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
d) Result in the loss of forest land or conversion of forest land to non-forest use?	Not Applicable	No	No	No	No
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?	Less than significant impact	No	No	No	No

a) Conversion of Important Farmland

Would the project: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that the City is primarily urbanized. However, land dedicated to agricultural uses was identified in the southern portions of the City around the Stanly Ranch and Westwood Planning Areas. Small areas of vacant and underutilized land used for agricultural and grazing purposes are located in proximity to the City, such as Foster Road, Big Ranch Road, Wyatt Road, the Browns Valley hills, along with the Vintage, Beard, Terrace Shurtleff Planning Areas, and smaller parcels less than 1-acre in size that are scattered throughout the City. The Prior FEIR acknowledged that implementation of the 2020 General Plan would convert more than half of land dedicated to agricultural purposes that consist of prime agricultural soils to urbanized uses. The Prior FEIR determined that the conversion of those smaller vacant parcels in the RUL used for agriculture that are already surrounded by urbanized uses would result in less than significant impacts, while the conversion of larger parcels was considered significant. However, those larger parcels with Prime Farmland were found to not be greater than 10 acres or contiguous with larger cultivated areas. The

Prior FEIR concluded that the conversion of agricultural land from the implementation of the 2020 General Plan would be significant and unavoidable.[19]

Proposed Project Analysis and Conclusion

The proposed project could have a potentially significant impact if it would result in an unplanned conversion of Farmland. The California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) designates the project site as Prime Farmland and Farmland of Statewide Importance.[20] However, the project site was evaluated in the Prior FEIR for future residential development and is zoned for residential uses. As discussed above, the Prior FEIR determined that the impacts of the 2020 General Plan's buildout on prime agricultural soils within the Planning Area, including residential development consistent with the proposed project, would be significant and unavoidable. The project site is located within the Vintage Planning Area identified in the Prior FEIR. The Vintage Planning Area contains residential land uses and was expected to contribute approximately 1,611 new dwelling units at buildout, and as discussed further in Section 4.14, Population and Housing, the growth induced by the proposed project was accounted for by the Prior FEIR.[21] Development of the proposed project would be consistent with planned growth under the General Plan, and thus, the proposed project would not result in any additional unplanned conversion of agricultural land to nonagricultural use. Therefore, impacts would be significant and unavoidable consistent with the Prior FEIR. The proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Agricultural Zoning and Williamson Act Contracts

Would the project: Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Summary of 2020 General Plan FEIR

The Prior FEIR identified approximately 1,037 acres of vacant and underutilized lands that are marginally used for agriculture within the RUL with the largest areas located along the City's perimeter and smaller parcels scattered throughout the City.[22] The Prior FEIR indicated that implementation of the 2020 General Plan would establish measures where any additions to the RUL must meet five findings of the County Measure J growth management initiative, such as determining the suitability of land for urban development, the absence of prime agricultural soils or uses, and the existence of natural features that would buffer urban and rural uses and being contiguous to the existing RUL. Policy LU-3.2 of the 2020 General Plan would establish a buffer at the RUL to prevent conflicts between residential uses and agricultural lands, and Policy LU-3.3 would decrease the density of residential development within a quarter mile of the RUL. Furthermore, the Prior FEIR

[19] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page S-4. December 1.

[20] California Department of Conservation (DOC). 2017. Napa County Important Farmland 2016. June.

[21] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 2-16. December 1.

[22] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.2-2 – 3.2.3. December 1.

indicated that the proposed expansion of the RUL would not conflict with agricultural use as the areas proposed for expansion are already urbanized and those smaller vacant and underutilized parcels identified for agricultural uses within the already established RUL are surrounded by already existing contiguous urban development. As such, the Prior FEIR concluded that implementation of the 2020 General Plan would result in less than significant impacts related to conflict with agricultural zoning or Williamson Act contracts.[23]

Proposed Project Analysis and Conclusion

There are no areas within the project site or the surrounding area that are under Williamson Act contracts. Furthermore, the project site is not zoned for agricultural uses. Therefore, no impacts would occur. The proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Forest Zoning

Would the project: Conflict with existing zoning for forest land or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. However, the Prior FEIR acknowledged that foreseeable urban development could encroach on open spaces and impact natural resources. The Prior FEIR determined that implementation of the 2020 General Plan would support the continued maintenance of the RUL to define the Urban Growth Boundary (UGB) and would minimize disturbance to the region's natural resources. Furthermore, the Prior FEIR mentioned that the 2020 General Plan would implement Policy LU-3.2, which establishes a buffer between residential land uses and agricultural lands in proximity to the RUL.

Proposed Project Analysis and Conclusion

The project site does not contain any areas designated as forest land or timberland. While the proposed project would remove existing vineyards, native oak trees, and fruit trees, the proposed project would replace these trees by planting approximately 66 new trees. No impacts would occur. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

[23] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.2-4 – 3.2-5. December 1.

d) Conversion of Forest Land

Would the project: Result in the loss of forest land or conversion of forest land to non-forest use?

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. However, the Prior FEIR determined that the City is highly urbanized and nearly built out, consisting of primarily urban land uses, which precludes viable production of randomly located parcels situated within the RUL. Furthermore, the Prior FEIR indicated that the 2020 General Plan contains policies intended to preserve surrounding open space lands outside the RUL for natural resource uses and any foreseeable expansion of the RUL must be consistent with City and County goals for environmental protection.

Proposed Project Analysis and Conclusion

The project site does not contain, nor is it adjacent to, any designated forest land. No impacts would occur. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

e) Pressures to Convert Farmland or Forest Land

Would the project: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that implementation of the 2020 General Plan would expand the RUL by approximately 440 acres and acknowledged that it would convert more than half of smaller vacant and underutilized parcels used for agricultural and grazing purposes, or those situated on prime agricultural soils to urbanized uses, where conversion of larger parcels with prime agricultural soils may have a significant impact on converting farmland to nonagricultural uses. However, the Prior FEIR states that the conversion of small vacant parcels, generally less than 1 acre in size, within the RUL is considered insignificant on the conversion of prime agricultural soils to urbanized uses, and most of these vacant lands underlain by prime agricultural soils are already located within an urbanized area. In addition, areas that were planned to be incorporated into the RUL are already surrounded by urbanized uses and services and would not indirectly result in secondary development pressures that could convert existing agricultural soils into urbanized uses. Lastly, the Prior FEIR determined that development of smaller vacant parcels with agricultural soils within the RUL would encourage future development within the City, indirectly protecting agricultural and open space lands outside the RUL.[24] Therefore, the Prior FEIR concluded that impacts would be less than significant.

[24] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.2-5 – 3.2-8. December 1.

Proposed Project Analysis and Conclusion

The proposed project does not involve other changes relevant to Farmland conversion that are not already discussed in Impact 4.2(a), and no forest land exists on-site. The proposed project is an infill site entirely surrounded by existing development; as such, it would not remove any barriers or constraints that would result in the conversion of off-site Farmland or forest land. Impacts under this criterion would be less than significant, aside from the proposed project converting Farmland to nonagricultural use. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Agricultural Resources and Forestry Resources, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.3 Air Quality *Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:*					
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less than significant impact	No	No	No	No
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard?	Less than significant impact	No	No	No	No
c) Expose sensitive receptors to substantial pollutant concentrations?	Less than significant impact	No	No	No	No
d) Result in other emissions (such as those leading to odors or) adversely affecting a substantial number of people?	Less than significant impact	No	No	No	No

a) Air Quality Plan Conflict

Would the project: Conflict with or obstruct implementation of the applicable air quality plan?

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that impacts related to air quality were based on criteria from the Bay Area Air District contained in the Bay Area Air District CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans where Chapter 2 establishes three “tests” on a plan’s consistency, with the most recently adopted regional air quality plan being: (1) the rate of increase in Vehicle Miles Traveled (VMT) associated with the 2020 General Plan is equal to or lower than the rate of increase in population for the City, (2) the 2020 General Plan includes reasonable measures that would

implement Transportation Control Measures (TCMs) in the Clean Air Plan, and (3) the 2020 General Plan establishes buffer zones around existing and proposed land uses that would emit potential odors and/or toxic air contaminants (TACs).

Vehicle Miles Traveled Per Capita

The Prior FEIR indicated that the Association of Bay Area Governments (ABAG) projected the City to increase in population from 72,600 in 1995 to 84,300 in 2010 consisting of an average annual increase of 1.1 percent, while VMT within the City would increase from 1,193,900 VMT in 1992 to 1,567,100 in 2020, resulting in an average annual increase of 1.1 percent. Furthermore, the VMT Analysis prepared for the 2020 General Plan determined that the estimated VMT from the implementation of the 2020 General Plan included traffic that transects through the City on State highways. As such, the Prior FEIR determined that the VMT estimate prepared for the 2020 General Plan was likely lower than the estimated average annual increase. Therefore, the Prior FEIR concluded that the increase in VMT associated with the implementation of the 2020 General Plan would be consistent with the Clean Air Plan.

Implementation of TCMs in the Clean Air Plan

The Prior FEIR identified TCMs that must be included in a City's General Plan to be found consistent with the Clean Air Plan, including implementing policies and measures to improve bicycle access and facilities and arterial traffic management, offering transit use incentives, and incorporating beneficial policies and programs into local planning and development to reduce the number and length of single-occupant automobile trips. The Prior FEIR concluded that the 2020 General Plan would support implementation of the TCMs critical to demonstrating an insignificant air quality impact.

Buffer Residential Development from Odors and Toxic Air Contaminants.

The Prior FEIR acknowledged potential conflicts between existing and proposed land uses with the implementation of the 2020 General Plan pertaining to noxious odors and chemical use, resulting in potential TACs. However, the 2020 General Plan implements an agricultural setback between planned residential uses in proximity to the RUL and agricultural lands and requires that industrial uses be designed to minimize dust and air emissions. As such, the Prior FEIR indicated that the 2020 General Plan satisfies the third test on Clean Air Plan consistency as established by the Bay Area Air District. Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

The Bay Area Air District does not provide a numerical threshold of significance for project-level consistency analysis with Air Quality Plans (AQPs). The Bay Area Air District 2022 CEQA Guidelines state that to evaluate whether a project is consistent with an AQP, all three of the following questions should be answered in the affirmative with substantial evidence provided in support of the answer:[25]

[25] Bay Area Air Quality Management District (Bay Area Air District). 2022. Project-Level Air Quality Impacts. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-5-

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

Criterion 1

The primary goals of the 2017 Clean Air Plan,[26] the current AQP to date, are to:

- Attain all State and national air quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from TACs;
- Protect the climate by reducing Bay Area greenhouse gas (GHG) emissions.

An analysis of the proposed project's consistency with the primary goals of the AQP is discussed below:

- Attain all State and national air quality standards: As mentioned in the Project Description, the proposed project would require all construction equipment to be maintained and tuned to meet appropriate EPA and ARB emission requirements, including the use of only Tier 4 engines in off-road equipment and cleaner heavy-duty trucks to reduce nitrogen oxides (NO_X) and particulate matter (PM) exhaust emission levels. Furthermore, as discussed in Impact AIR (b), the proposed project would have less than significant impacts from construction and operational-related criteria air pollutant emissions. Therefore, the proposed project would be doing its fair share of what is needed from land use development projects to assist the Bay Area Air District in implementing this goal of the AQP.
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants: As discussed in Impact 4.3(c), the proposed project would not introduce ongoing sources of toxic air contaminants (TACs) or particulate matter emissions. A Health Risk Assessment (HRA) was prepared following Bay Area Air District and OEHHA guidance to assess potential impacts from TAC and PM emissions during construction (Appendix B); the HRA concludes that impacts would be less than significant, and therefore, the proposed project is consistent with this goal of the AQP.
- Protect the climate by reducing Bay Area GHG emissions: As noted in the discussion under Criterion 2, the proposed project would implement a variety of features to reduce GHG emissions and protect the climate, including implementation of green building measures, landscaping, tree planting, and bicycle and pedestrian connections. Therefore, the proposed project is consistent with this goal of the AQP.

project-air-quality-impacts_final-pdf.pdf?rev=de582fe349e545989239cbbc0d62c37a&sc_lang=en. Accessed May 5, 2025.

[26] Bay Area Air Quality Management District (Bay Area Air District). 2017. Spare the Air, Cool the Climate. A Blueprint for Clean Air and Climate Protection in the Bay Area. April.

Criterion 2

The 2017 Clean Air Plan contains control measures to reduce air pollutants and GHGs at the local, regional, and global levels. Along with the traditional stationary, area, mobile source, and TCMs, the 2017 Clean Air Plan contains many control measures designed to protect the climate and promote mixed-use, compact development to reduce vehicle emissions and exposure to pollutants from stationary mobile sources.

Table 1 lists the 2017 Clean Air Plan control measures that are applicable and relevant to the proposed project. policies. As shown below, the proposed project would incorporate all applicable AQP control measures.

Table 1: Project Consistency with Applicable Clean Air Plan Control Measures

Control Measure	Project Consistency
Buildings Control Measures	
BL1: Green Buildings	Consistent. The proposed project would comply with the latest energy efficiency standards and incorporate applicable energy efficiency features designed to reduce project energy consumption. For example, the proposed project would include 22 accessory dwelling units (ADUs) constructed within the existing single-family homes; this design feature allows for a more efficient use of building materials on a per dwelling unit basis.
BL4: Urban Heat Island Mitigation	Consistent. Approximately half of the proposed project site is anticipated to include landscaped (pervious) surfaces, which would serve to reduce storm runoff and would include the planting of trees and other vegetation. Hence, the proposed project would be designed to reduce the urban heat island effect.
Energy Control Measures	
EN1: Decarbonize Electricity Generation	Consistent. The project applicant would, at a minimum, be required to conform to the energy efficiency requirements of the California Building Standards Code (CBC), also known as Title 24. The 2022 Title 24 Standards are the current State building regulations, which went into effect on January 1, 2023. Proposed buildings that would receive building permits after January 1, 2023, would be subject to the 2022 Title 24 Standards, including the proposed project. In addition, the project applicant would engage with Pacific Gas and Electric Company (PG&E) to maximize the amount of renewable energy contributing to the production of electricity within the Bay Area, as well as electricity imported into the region.
EN2: Decrease Electricity Demand	

Control Measure	Project Consistency
Natural and Working Lands Control Measures	
NW2: Urban Tree Planting	Consistent. As discussed, approximately 47 percent of the proposed project site would include landscaped and bioretention areas, including tree plantings and groundcover. It is anticipated that the proposed project would plant roughly 60 trees.
Waste Management Control Measures	
WA3: Green Waste Diversion	Consistent. The waste service provider for the proposed project would be required to meet the Assembly Bill (AB) 341, Senate Bill (SB) 939, and SB 1374 requirements that require waste service providers to divert green waste. In addition, AB 1383, which went into effect on January 1, 2022, aims to reduce organic waste disposal by 75 percent by 2025 and to secure 20 percent of surplus edible food for the food insecure by 2025.
WA4: Recycling and Waste Reduction	Consistent. The waste service provider for the proposed project would be required to meet the AB 341, SB 939, and SB 1374 requirements that require recyclable waste to be recycled and removal of 75 percent of the landfill waste stream by 2020.
Stationary Control Measures	
SS36: Particulate Matter from Trackout	Consistent. The proposed project would implement measures to reduce construction fugitive dust and trackout as detailed in Policy Resolution No. 27. Therefore, the proposed project would be consistent with this measure after implementation of Napa Policy Resolution No. 27 to address fugitive dust.
Transportation Control Measures	
TR9: Bicycle and Pedestrian Access and Facilities	Consistent. The proposed project site currently does not contain any sidewalk facilities along El Centro Avenue. Implementation of the proposed project would include the construction of sidewalk facilities along El Centro Avenue, which would help in expanding the City of Napa's sidewalk facilities and connectivity. In addition, the proposed project includes the construction of a new multiuse trail. This would contribute to the Bay Area Air District's efforts to encourage planning for pedestrian and other active transportation facilities.
Source: Bay Area Air Quality Management District (Bay Area Air District). 2017. Final 2017 Clean Air Plan.	

According to the Bay Area Air District guidance contained in the 2022 CEQA Guidelines, projects that incorporate all applicable control measures are considered consistent with the AQP; therefore, the proposed project would be consistent with Criterion 2.

Criterion 3

The proposed project would develop 51 single-family residences, 12 ADUs, and 10 junior ADUs and would not include any feature or design which could disrupt, delay, or otherwise hinder the implementation of any AQP control measure. According to the Bay Area Air District guidance contained in the 2022 CEQA Guidelines, examples of projects that may cause disruption or delay of control measures include projects that preclude an extension of a transit lane or bike path and projects that propose parking beyond parking requirements. The proposed project would not create such conditions. In fact, the project site currently does not contain any sidewalk facilities along El Centro Avenue. Implementation of the proposed project would include the construction of sidewalk facilities along El Centro Avenue, which would help with expanding the City's sidewalk facilities and pedestrian connectivity. The proposed project would also include construction of a new, multiuse trail. This would contribute to the Bay Area Air District's efforts to encourage planning for pedestrians and other active transportation facilities. As shown in Table 1 above, the proposed project would incorporate several AQP control measures as project design features, such as complying with energy efficiency standards contained in the 2022 CBC and expanding pedestrian amenities (the sidewalk along El Centro Avenue). Considering this information, the proposed project would not disrupt or hinder the implementation of any AQP control measures. The proposed project is therefore consistent with Criterion 3.

Summary

As addressed above, the proposed project would be consistent with all three criteria. Thus, the proposed project would not conflict with the 2017 Clean Air Plan. Impacts associated with conflicting with or obstructing implementation of the 2017 Clean Air Plan would be less than significant consistent with the Prior FEIR. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Air Quality Standard, Criteria Pollutants

Would the project: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard?

Summary of 2020 General Plan FEIR

The Prior FEIR determined that the Bay Area Air District manages an air quality monitoring station measuring ozone (O_3), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter less than 20 micrometers in diameter (PM_{10}) within the City. The City was in nonattainment for PM_{10} at the time the Prior FEIR was certified. In addition, the Bay Area Air District, which monitors air quality within the San Francisco Bay Area Air Basin (Air Basin), indicates the Air Basin is in nonattainment for

O_3. As previously mentioned, the Bay Area Air District establishes three "tests" to measure the significance of air quality impacts applicable to general plans, which can be utilized to determine whether a project would violate Ambient Air Quality Standards (AAQS) or contribute to air quality violations. The three "tests" established by the Bay Area Air District include the measure of VMT per capita, the implementation of TCMs in the Clean Air Plan, and the buffering of residential development from odors and TACs. As stated above, the Prior FEIR determined the 2020 General Plan to be consistent with the Clean Air Plan and, therefore, would not violate any air quality standards.[27] Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

The proposed project is located in the City of Napa and is within the jurisdiction of the Bay Area Air District, which regulates air quality in the Air Basin. Within the Air Basin, AAQS for O_3, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), PM_{10}, and lead (Pb) have been established by both the ARB and the EPA due to the serious health impacts related to exposure to those air pollutants.[28] The ARB has also set standards for sulfate concentrations and atmospheric visibility.

Exposure to O_3 can cause respiratory issues, aggravate asthma, and reduce lung function, especially in vulnerable populations like children and the elderly. Particulate matter is linked to heart disease, lung cancer, and premature death, as these tiny particles can penetrate deep into the lungs and even enter the bloodstream. CO interferes with oxygen delivery in the body, leading to dizziness, confusion, and, in severe cases, death.[29]

The EPA and ARB designate air basins, or specific areas within an air basin, as "nonattainment" where AAQS are exceeded. If standards are met, the area is designated as "attainment." The Air Basin is classified as a "nonattainment" area for the State O_3 and PM standards and as nonattainment for federal O_3 8-hour and $PM_{2.5}$ 24-hour standards.[30] This indicates that the Bay Area Air District has not achieved compliance with these State and federal standards for these pollutants (and their precursors) in the Air Basin. O_3 is not directly emitted and is formed at the ground level as a pollutant through reactions between NO_X and reactive organic gases (ROG) (referred to as O_3 precursor pollutants) in the presence of sunlight. Therefore, NO_X and ROG emissions are evaluated in the analysis below, along with PM_{10} and $PM_{2.5}$ emissions (because the Air Basin is also in nonattainment for PM pollutants). In addition, CO emissions are of concern during project operation

[27] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.10-1 – 3.10-5. December 1

[28] The United States Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six of the most common air pollutants—carbon monoxide, lead, ground level ozone, particulate matter, nitrogen dioxide, and sulfur dioxide—known as "criteria" air pollutants (or simply "criteria pollutants").

[29] United States Environmental Protection Agency (EPA). 2025. Website: https://www.epa.gov/clean-air-act-overview/progress-cleaning-air-and-improving-peoples-health. Accessed May 2, 2025.

[30] Bay Area Air Quality Management District (Bay Area Air District). 2017. Website: https://www.baaqmd.gov/en/about-air-quality/research-and-data/air-quality-standards-and-attainment-status. Accessed May 7, 2025.

because operational CO hotspots are related to increases in on-road vehicle congestion and CO hotspots can have consequential health impacts.

The significance criteria established or recommended by the Bay Area Air District were used to make CEQA significance determinations related to the proposed project's potential impacts to air quality. The Bay Area Air District has adopted thresholds of significance for project construction and operation. In developing thresholds of significance for air pollutants, the Bay Area Air District 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 on the region's existing air quality conditions.[31] Therefore, a project that would not exceed the Bay Area Air District thresholds of significance on the project-level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. Construction and operational emissions are discussed separately below.

Construction Emissions

Construction emissions from the proposed project would be "short-term" or temporary in nature and duration. Construction of the proposed project would result in the temporary generation of ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions from construction activities including demolition, site preparation, grading, building construction, architectural coating, and asphalt paving.

As previously mentioned, fugitive dust (PM_{10} and $PM_{2.5}$) would be generated during earthmoving activities but would largely remain localized near the project site.

The Bay Area Air District does not recommend a numerical threshold for fugitive dust particulate matter emissions. Instead, the Bay Area Air District bases the determination of significance for fugitive dust on considering the control measures to be implemented. If all appropriate emissions control measures for fugitive dust are implemented for a project as recommended by the Bay Area Air District, then fugitive dust emissions during construction are not considered significant.[32] To reduce potential impacts from fugitive dust to a less than significant level, the proposed project would implement Napa Policy Resolution No. 27, a policy resolution amending standard mitigation measures and conditions of approval for all development projects within the City, which includes best practices for fugitive dust. The best practices for fugitive dust in the Napa Policy Resolution No. 27 are control measures to reduce fugitive dust, and as stated, if control measures for fugitive dust are implemented, then fugitive dust emissions during construction are not considered significant

[31] Bay Area Air Quality Management District (Bay Area Air District). CEQA Thresholds and Guidelines Update. Website: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines. Accessed: May 2, 2025.

[32] Bay Area Air Quality Management District (Bay Area Air District). CEQA Thresholds and Guidelines Update. Website: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines. Accessed July 9, 2025.

(according to Bay Area Air District guidance).Therefore, short-term construction impacts would be less than significant for fugitive dust.

Construction Exhaust Air Pollutant Emissions: ROG, NO_X, PM_{10} and $PM_{2.5}$

Construction emissions related to exhaust were quantified and estimated using California Emissions Estimator Model (CalEEMod) Version 2022.1 for a typical construction scenario for a land use project of this size. 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 Bay Area Air District for estimating project emissions. Construction emissions were estimated and compared with the applicable thresholds of significance established by the Bay Area Air District to assess ROG, NO_X, exhaust PM_{10}, and exhaust $PM_{2.5}$ construction emissions to determine significance for this criterion.

While the proposed project is anticipated to be constructed in 18 to 36 months, project construction was modeled according to CalEEMod default assumptions to occur over an 18-month period to represent the worst-case scenario (because it results in the highest daily emissions). An 18-month construction schedule assumes the same level of construction intensity, horsepower hours, or off-road equipment operation over a shorter period (which would result in higher daily average emissions; however, total emissions would not change). The proposed project is anticipated to be constructed over an 18-to-36-month period. If the construction period is longer than 18 months, there would be no increase in construction equipment operations nor any subsequent emissions; the equipment would operate fewer hours per day, and the construction activity would simply take place over a longer period. The modification of the construction schedule has no effect on the total emissions that would be generated by the proposed project's construction, nor does it have any effect regarding the calculation of average emissions per day or per year (as determined pursuant to Bay Area Air District methodology). Although it does not form the basis of the evaluation or conclusion in this document, the City also notes that it is reasonable to assume that future improvements in technology would be incorporated into regulatory requirements. Accordingly, should the construction schedule move to later years or take longer, construction emissions would be expected to decrease because of mandatory compliance with more stringent regulatory requirements that would affect future construction equipment and fuels (therefore, the analysis represents a worst-case, conservative approach).

The proposed project's construction emissions were calculated in two models: project site and off-site improvements. The project site portion of the construction emissions relates to demolition, site preparation, grading, and construction of the residences, ADUs, and the new interior street. The off-site improvements portion relates to improvements to El Centro Avenue (including widening of the street and construction of curb and gutter and a sidewalk) and construction of a multiuse trail. As shown in Table 2, it has been assumed that the proposed project would be constructed in a total of 400 workdays (project site and off-site improvements are anticipated to occur simultaneously). For a more detailed description of the construction parameters used in estimating air pollutant emissions modeling, please refer to Appendix B.

Table 2: Preliminary Construction Schedule

Construction Activity	Start Date	End Date	Working Days per Week	Total Number of Working Days
Project Site				
Demolition	9/1/2025	9/26/2025	5	20
Site Preparation	9/29/2025	10/10/2025	5	10
Grading	10/13/2025	11/21/2025	5	30
Building Construction	11/24/2025	1/15/2027	5	300
Paving	1/18/2027	2/27/2027	5	20
Architectural Coating	2/15/2027	3/12/2027	5	20
Off-site Improvements				
Demolition	9/1/2025	9/12/2025	5	10
Site Preparation	9/15/2025	9/15/2025	5	1
Grading	9/16/2025	9/17/2025	5	2
Building Construction	9/18/2025	2/4/2026	5	100
Paving	2/5/2026	2/11/2026	5	5
Source: CalEEMod Output Files, Appendix B.				

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. The modeling assumes the use of Tier 4 (interim or newer) equipment. Refer to Appendix B for more details on proposed project construction modeling. Average daily construction emissions are compared with the Bay Area Air District's significance thresholds in Table 3.

Table 3: Construction Emissions

Construction Activity	Regional Pollutant Emissions (tons/year)			
	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Demolition (2025)	0.005	0.128	0.002	0.002
Site Preparation (2025)	0.004	0.074	0.000	0.000
Grading (2025)	0.014	0.342	0.003	0.003
Building Construction (2025)	0.006	0.123	0.001	0.001

Construction Activity	Regional Pollutant Emissions (tons/year)			
	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Building Construction (2026)	0.055	1.183	0.012	0.011
Building Construction (2027)	0.002	0.049	0.000	0.000
Paving (2027)	0.004	0.072	0.001	0.001
Architectural Coating (2027)	1.816	0.011	0.000	0.000
Off-site Improvements (2025)	0.008	0.197	0.0013	0.001
Off-site Improvements (2026)	0.004	0.064	0.0004	0.0004
Total Emissions (tons)	**1.92**	**2.24**	**0.02**	**0.02**
Total Emissions (lbs)	**3834.0**	**4486.7**	**44.5**	**42.3**
Daily Average				
Average Daily Emissions–2025 (Including Off-site Improvements), lbs/day	1.89	40.59	0.37	0.35
Average Daily Emissions–2026 (Including Off-site Improvements), lbs/day	1.92	2.29	0.02	0.02
Average Daily Emissions–2027, lbs/day	50.78	7.78	0.06	0.06
Average Daily Emissions–All Years (lbs/day)	**9.59**	**11.22**	**0.11**	**0.11**
Significance Threshold (lbs/day)	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
lbs = pounds
NO_X = oxides of nitrogen
PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
ROG = reactive organic gases

[1] Totals may not add up due to rounding. Calculations use unrounded totals.

[2] Average daily emissions for all years were calculated by dividing the total lbs of emissions by the total number working days of construction (400 workdays). Average daily emissions by year were calculated for each construction year based on the number of working days in that year.

[3] As stated in the Project Description, the proposed project would require all construction equipment to be maintained and tuned to meet appropriate EPA and ARB emission requirements, including the use of only Tier 4 engines in off-road equipment and cleaner heavy-duty trucks to reduce nitrogen oxides (NO_X) and PM exhaust emission levels. The estimated emissions shown above account for the use of Tier 4 engines in off-road equipment.

Source: CalEEMod Output (see Appendix B).

As shown in Table 3, the construction emissions from all construction activities are below the recommended thresholds of significance; therefore, project construction would have less than significant impact related to emissions of ROG, NO_X, exhaust PM_{10}, and exhaust $PM_{2.5}$. Therefore, project construction would have a less than significant impact.

Operational Emissions

Operational Air Pollutant Emissions: ROG, NO_X, PM_{10}, and $PM_{2.5}$

Operational emissions would include area, energy, and mobile sources. Area sources include emissions from architectural coatings, consumer products, and landscape equipment, while energy sources include emissions from the combustion of natural gas for water and space heating. Mobile sources include exhaust and road dust emissions from the vehicles that would travel to and from the project site. Pollutants of concern include ROG, NO_X, PM_{10}, and $PM_{2.5}$.

Estimated operational emissions reflect the full buildout of the proposed project. The major sources for proposed operational emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ include motor vehicle traffic, use of natural gas, and the occasional repainting of buildings. Because of the proposed project's modest proposal of 51 single-family residences, 12 ADUs, and 10 junior ADUs, it would meet the Bay Area Air District's screening criteria for single-family residences, which is a 325-dwelling unit screening size. Nonetheless, operational emissions generated by the proposed project were estimated and are contained in Table 4 for informational purposes.

The average daily and annual emissions are presented in Table 4. Operational emissions of the respective pollutants were calculated using CalEEMod, Version 2022.1.1.22. For detailed assumptions used to estimate emissions, see Appendix B.

Table 4: Operational Emissions

Emissions Source	Criteria Pollutants			
	ROG	NO_X	PM_{10} (Total)	$PM_{2.5}$ (Total)
Annual Emissions Summary (tons/year)				
Mobile	0.34	0.27	0.37	0.10
Area	1.21	0.00	0.00	0.00
Energy	0.01	0.10	0.01	0.01
Total Annual Project Emissions (tons/year)	**1.56**	**0.37**	**0.38**	**0.10**
Thresholds of Significance	**10**	**10**	**15**	**10**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**
Average Daily Emissions Summary (lbs/day)				
Project Emissions (lbs/year)	575.76	184.08	202.68	57.68

Emissions Source	Criteria Pollutants			
	ROG	NO_X	PM_{10} (Total)	$PM_{2.5}$ (Total)
Average Daily Project Emissions (lbs/day)[1]	**8.53**	**2.03**	**2.07**	**0.57**
Thresholds of Significance	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
lbs = pounds
NO_X = nitrogen oxides.
PM_{10} = particulate matter 10 microns or less in diameter
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
ROG = reactive organic gases
[1] For average daily emissions, the proposed project is assumed to operate 365 days per year. Therefore, the annual tonnage of emissions is multiplied by 2,000 pounds per ton to identify total pounds of emissions and divided by 365 days per year to identify average daily emissions.
Source: CalEEMod Output (see Appendix B).

As shown in Table 4, the proposed project would not exceed the Bay Area Air District's thresholds of significance during operation, indicating that ongoing project operations would not be considered to have the potential to generate a significant quantity of air pollutants. Therefore, long-term operational impacts associated with criteria pollutant emissions generated by the proposed project would be less than significant.

Operational Carbon Monoxide Hotspot

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

The Bay Area Air District recommends a screening analysis to determine whether a project has the potential to contribute to a CO hotspot. The screening analysis utilizes three screening criteria, as described below, to identify when site-specific CO dispersion modeling is necessary. The proposed project would result in a less than significant impact to air quality for local CO, and site-specific CO dispersion modeling would not be necessary if all 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; and
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and

- 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).

According to a Traffic Impact Study prepared by W-Trans, the proposed project is estimated to generate on average 548 daily vehicle trips. Napa Valley Transportation Agency does not have a congestion management program; therefore, the first criteria does not apply to the proposed project. Reasonably, the proposed project would not cause or materially contribute to the second and third screening criteria listed above, which involve intersections with tens of thousands of vehicles per hour. In fact, there are no intersections in the region with traffic counts that exceed criteria two and criteria three traffic volumes. Additionally, a review of adjacent roadways that would receive new vehicle trips generated by the proposed project does not include transportation facilities where vertical or horizontal mixing is substantially limited. Given these considerations, the proposed project would not exceed the second or third criteria. Therefore, the proposed project would not exceed the CO screening criteria and it would have a less than significant impact related to CO. The proposed project does not have any project-specific significant effects which are peculiar to the project or its site, and the proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Sensitive Receptors

Would the project: Expose sensitive receptors to substantial pollutant concentrations?

Summary of 2020 General Plan FEIR

The Prior FEIR addressed the potential impact of pollution concentrations on sensitive receptors by using the Bay Area Air District CEQA Guidelines–Assessing the Air Quality Impacts of Projects and Plans, which establish three “tests” to measure the significance of air quality impacts applicable to the implementation of the 2020 General Plan, including air quality impacts on sensitive receptors. One of the tests from the Bay Area Air District determines whether the 2020 General Plan contains measures that would buffer residential development from sources of potential odors or TACs. The Prior FEIR acknowledged that the potential conflict between existing and proposed land uses under the 2020 General Plan could result in exposure of sensitive receptors to odors and other pollution concentrations, including the emissions of odors and pesticides from agricultural uses in proximity to residential uses and air quality impacts generated from industrial development. However, the Prior FEIR ascertained that the 2020 General Plan would contains policies and implementation measures addressing sensitive receptors, such as Policy LU-3.2, which establishes agricultural setbacks between residential land uses in proximity to the RUL and agricultural land outside the RUL, and Policy LU-7.4, which would require the City to certify that industrial developments minimize dust and

air emissions.[33] As such, the Prior FEIR determined that the implementation of the 2020 General Plan would result in less than significant air quality impacts, including those related to sensitive receptors.

Proposed Project Analysis and Conclusion

The closest existing sensitive receptors are single-family residences located adjacent to the proposed project boundary on all sides. There are also nearby worker receptors and a school. Because of the proximity of the proposed project and these sensitive receptors, the construction emissions have the potential to result in significant health risks due to TAC and/or $PM_{2.5}$ emissions. The major TAC that affects health impacts in the air is diesel particulate matter (DPM), which accounts for roughly 85 percent of the cancer risk from air toxics in the Bay Area region, and it is therefore utilized as the surrogate for TACs in this analysis. DPM has been identified by the ARB as a carcinogenic substance. Major sources of DPM include off-road construction equipment and heavy-duty delivery and vendor trucks and worker activities. For purposes of this analysis, DPM is represented as exhaust emissions of PM_{10}.

$PM_{2.5}$ concentrations were calculated using the $PM_{2.5}$ emission rates for the maximum annual year for $PM_{2.5}$ emissions, including exhaust from off-road equipment, dust from material movement, and on-road mobile sources such as trucks, as well as brake and tire wear and re-entrained road dust.

Accordingly, an HRA was conducted to evaluate potential health risks from TACs and $PM_{2.5}$ during project construction. The assessment is provided below, while Appendix B provides detailed assumptions and modeling parameters.

Health Risk Assessment (HRA)–Project Construction

Consistent with Bay Area Air District guidance, cancer and chronic non-cancer health risks were calculated for off-site residents, off-site workers, and schools within 1,000 feet of the project site. The surrounding area of the project site is residential on all sides. SR-29 is approximately 1,000 feet to the west of the proposed site. One school, Willow Elementary School, is located within 1,000 feet northeast of the proposed project site and was included in the HRA as a sensitive land use. Estimated health risks for all sensitive receptors, including the school, are shown in Table 7.

The Bay Area Air District 2022 CEQA Air Quality Guidelines provide detailed guidance on estimating health risks resulting from exposure to TACs. The methodology used for this HRA is consistent with the Bay Area Air District guidance, which follows the California Environmental Protection Agency (Cal/EPA) OEHHA guidance. Health impacts are calculated by age groups representing the third trimester to birth, infant, child and adult age groups. OEHHA developed age sensitivity factors (ASFs) applied to the different age groups which account for the increased sensitivity to carcinogens during early-in-life exposures. An ASF of 10 is used to multiply the risks for the third trimester and infants less than age 2, an ASF of 3 is applied for ages 2 to 16 years old, and an ASF of 1 for ages 16 and

[33] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.10-1 – 3.10-5. December 1

older. The estimated risk for each age group is summed to estimate the potential cancer risk for the exposure duration of interest.

The HARP Risk Assessment Stand-alone Tool (HARP-RAST), a software application designed by ARB to calculate health risks from air pollutant emissions, was used because the DPM air concentrations were calculated directly in the AERMOD dispersion model. This HRA utilizes Tier 2 (user-specified, non-default) HRA procedures utilizing HARP2. HARP2 is the recommended model by Bay Area Air District for calculating and presenting HRA results because it follows the risk assessment guidance methodology and is consistent with the Air District's Regulation 2-5. HARP-RAST allows the user to estimate the single or multi-pathway health impacts at multiple receptor locations from one or more pollutants released from one or more emission points. Appendix B contains additional details of the exposure parameters used in the HRA that determine the inhalation dose and health risks from the project.

The potential health risks from project construction were compared against applicable Bay Area Air District thresholds of significance. The analysis is further described below and results are shown in the Table 7.

Project Construction

Estimation of Construction DPM and $PM_{2.5}$ Emissions

Construction DPM exhaust emissions and $PM_{2.5}$ concentrations were estimated using CalEEMod, Version 2022.1, as described above. Detailed modeling parameters and assumptions can be found in Appendix B. Construction was assumed to begin in September 2025 and conclude in March 2027. Project construction emissions were assumed to be distributed over the project site with a working schedule of 8 hours per day, 5 days per week.

As described in Appendix B, construction emissions were estimated on-site and off-site. The on-site construction emissions include emissions from construction equipment, vehicles, and earthmoving activities within the proposed project construction area, including improvements to El Centro Avenue. The off-site construction emissions are associated with haul road trucks that carry materials to and from the construction areas (modeled within 1,000 feet of the proposed project site).

Table 5 summarizes the emission rates of DPM emissions during construction of the proposed project, including the use of Tier 4 (interim or final) construction equipment as per the Project Description in Section 1.4. The estimated DPM construction emissions are utilized in the air dispersion modeling for purposes of the HRA.

Table 5: Project DPM Construction Emissions

Scenario	On-site DPM (lbs)	Off-site DPM (lbs)	Total DPM (lbs)
Proposed Project (Including Tier 4 Construction Equipment)	42.17	2.3	44.47

Scenario	On-site DPM (lbs)	Off-site DPM (lbs)	Total DPM (lbs)
Notes: DPM = diesel particulate matter lbs = pounds $PM_{2.5}$ = particulate matter less than 2.5 microns in diameter Emissions occur over project construction period of 400 workdays and 3,200 working hours. Emissions Source: CalEEMod Output and Construction Health Risk Assessment Calculations. See Appendix B.			

Table 6 summarizes the annual PM2.5 emissions for the maximum annual period (2025–2026) for the construction of the proposed project with a Statewide construction fleet as defined by CalEEMod and with the assumption of a Clean Fleet meeting Tier 4 Off-road Standards. The estimated $PM_{2.5}$ construction emissions are utilized in the air dispersion modeling for purposes of the HRA.

Table 6: Maximum Annual Project $PM_{2.5}$ Construction Emissions

Scenario	On-site $PM_{2.5}$ Area (lbs)	Off-site $PM_{2.5}$ Road Segments (lbs)	Total $PM_{2.5}$ (lbs)
Proposed Project (Including Tier 4 Construction Equipment)	124.22	22.60	146.82
Notes: lbs = pounds $PM_{2.5}$ = particulate matter less than 2.5 microns in diameter Maximum Annual Emissions occur during the first year of construction from 9/2025–9/2026. Emissions are assumed over the first year of construction. Emissions Source: Appendix B			

To assess health impacts to off-site sensitive receptors, the American Meteorological Society/EPA Regulatory Model (AERMOD) air dispersion model was used to simulate the dispersal of the emissions from the DPM and $PM_{2.5}$ project emissions and to estimate the concentrations of these pollutants at sensitive receptors within 1,000 feet of the project site.

The dispersion modeling incorporated release characteristics of the sources and accounted for terrain influence at receptors by using base elevations from USGS digital elevation models. Meteorological data provided by Bay Area Air District from the Air District's Napa County Airport meteorological station from 2013–2017 was used to model the local wind patterns that would influence the dispersion of TACs from the project site and haul road emissions. The prevailing wind is from the southwest.

HRA outputs in Appendix B include local maps showing the proposed project site, locations of sources modeled, and identification of sensitive receptors within 1,000 feet of the site. AERMOD dispersion model reports are also included.

Estimation of Cancer Risks

Cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer as a direct result of exposure to potential carcinogens over a specified exposure duration. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). The inhalation dose is determined by factors such as the concentration of the pollutant in the air, an individual's breathing rate, and the amount of time they inhale the contaminated air.

A risk level of 10 in 1 million implies a likelihood (or risk) that up to 10 persons, out of 1 million equally exposed people, would contract cancer if exposed continuously (24 hours per day) to the levels of TACs over a specified duration of time. This risk would be an excess cancer risk that is in addition to any environmental cancer risk borne by a person not exposed to these air toxics. It should be noted that the risk of cancer described here is an increased probability of contracting cancer during a lifetime as a result of exposure to toxics from a project. It does not represent an actual incidence of cancer in an exposed population, nor does it equate to deaths from cancer, because not every cancer case results in death. Estimated cancer risks associated with the proposed project's construction are shown in Table 7.

Estimation of Non-cancer Chronic Hazards

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 OEHHA and contained within ARB Hot Spots Analysis and Reporting Program (HARP) Version 2 (or HARP2), were utilized in the assessment.

Risk characterization for non-cancer health hazards from TACs is expressed as a Hazard Index (HI). HI is a ratio of the predicted concentration of the proposed project's emissions to a concentration considered acceptable to public health professionals, termed the reference exposure limit. The HI 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. Each chemical concentration or dose is divided by the appropriate toxicity reference exposure level to calculate the HI. For compounds affecting the same toxicological endpoint, this ratio is summed up. 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 of 5 micrograms per cubic meter ($\mu g/m^3$). The principal toxicological endpoint assumed in this assessment was through inhalation.

An HI of 1.0 is the target threshold for assessing non-cancer hazards by project, although a value greater than 1.0 does not necessarily correlate to a statistical probability of harm. Estimated non-cancer chronic hazards associated with the proposed project's construction are shown in Table 7.

Project Construction HRA Summary

Table 7 summarizes the cancer risk and non-cancer chronic HI results for proposed project construction at the Maximally Exposed Individual Resident (MEIR), at a residence located

approximately 25 feet to the east of the proposed project site, as well as at the Maximally Exposed Sensitive Worker (MEIW), and at the nearby school. The cancer risk and non-cancer chronic HI were modeled assuming the use of Tier 4 (interim or final) equipment and, as shown in the table, are below the Bay Area Air District thresholds of significance.

Table 7: Estimated Cancer Risks and Chronic Non-cancer Hazards

Cancer Risk Scenario[1]	Average DPM ($\mu g/m^3$)	DPM Cancer Risk (risk per million)	DPM Chronic Non-cancer Hazard Index	Annual $PM_{2.5}$ ($\mu g/m^3$)
Maximum Exposed Individual Resident[2]	0.02409	5.590	0.0048	0.1004
Maximum Exposed Individual Worker[3]	0.00325	0.050	<0.01	0.0135
School Sensitive Receptor[4]	0.00537	0.710	<0.01	0.0244
Thresholds of Significance		**10**	**1**	**0.3**
Exceeds Individual Source Threshold?		**No**	**No**	**No**

Notes:
$\mu g/m^3$ = micrograms per cubic meter
DPM = diesel particulate matter based in PM_{10} Exhaust= particulate matter less than 10 microns in diameter
MEIR = Maximally Exposed Individual Receptor
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter (includes $PM_{2.5}$ exhaust, dust, brake wear and tire wear)
REL = Reference Exposure Level

1 The proposed project construction cancer risk and chronic non-cancer hazard estimates shown here are based on a clean construction fleet with a Tier 4 interim engines for equipment >25 horsepower.

2 The maximum exposed individual resident was determined for the nearby residences immediately to the east of the project site at 559966 Easting 4243286 Northing, approximately 25 feet from the project site along Moss Lane.

3 The maximum exposed individual off-site worker is located at 559753 Easting, 4243137 Northing

4 One school (Willow Elementary School) is located at was located within 1000 feet of the site boundary at 559961 UTM E, 4243443 UTM N

Emissions Source: Appendix B.
Thresholds Source: Bay Area Air Quality Management District (Bay Area Air District). 2022. CEQA Air Quality Guidelines. April. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?la=en. Accessed May 7, 2025.

Project Operation

The proposed project is a residential project, and any TAC and/or $PM_{2.5}$ emissions would be from traffic generated by the proposed project residents. The proposed project is not associated with other TAC and/or $PM_{2.5}$ generating activities, such as truck traffic, the use of heavy equipment, or stationary sources such as backup diesel generators. As shown in Table 5, the operational emissions would primarily be attributed to residential traffic, which would consist of mostly light-duty gasoline-powered passenger vehicles, which are not a significant source of TAC and air pollutant emissions. Additionally, over time the passenger vehicle fleet is anticipated to become cleaner with the widespread adoption of Zero-Emission Vehicles (ZEVs). Thus, the proposed project would not

generate a significant amount of DPM or other TAC emissions during operation and would not result in significant health impacts to nearby sensitive receptors during operation.

Cumulative Health Risk Assessment

The Bay Area Air District recommends assessing the potential cumulative impacts from sources of TACs within 1,000 feet of a project in combination with the proposed project. As a result, a cumulative HRA was performed that examined the cumulative impacts of the proposed project's construction emissions and existing sources of TAC emissions within 1,000 feet of the proposed project. As previously discussed, the maximally exposed sensitive receptor was determined to be the MEIR, a residence located approximately 25 feet to the east of the proposed project site.

To prepare a cumulative, project-level HRA, the Bay Area Air District provides several tools for use in identifying screening potential sources of TACs nearby a project site and evaluating their potential health risks. These tools include the Stationary Source Screening Map, which provides the location of all the stationary sources permitted by the Air District with cancer risk and non-cancer hazard estimates and shows their location relative to the project site; Roadway Screening Data Layers which provide the location of highways and major surface streets and their estimated cancer risks, non-cancer hazards, and $PM_{2.5}$ concentrations for all Bay Area highways and surface streets relative to a project site; and Rail and Railyard Screening Data Layers which provide the location of rail lines and railyards and their estimated cancer risks, non-cancer hazards, and $PM_{2.5}$ concentrations from diesel locomotives and select railyards relative to a project site.

The Bay Area Air District screening tools were used to identify all sources of TACs and $PM_{2.5}$ concentrations, and associated health risks, from stationary sources, roadway sources and rail lines/railyards within 1,000 feet of the project site. The cumulative health risk during proposed project construction, including health risks from the existing stationary sources, roadway, and rail data derived by using the Bay Area Air District screening tools described above, are summarized in Table 8. No permitted stationary sources were identified within 1,000 feet of the proposed project site. No rail sources were identified within 1,000 feet of the proposed project site, and the Bay Area Air District Railyard Screening Layers contain no data for rail sources at the site. Outputs from the Bay Area Air District screening tools are documented in Appendix B with the HRA Results.

Table 8: Summary of the Cumulative Health Impacts at the MEIR During Construction

Source	Source Name/Type	Distance from MEIR (feet)	Cancer Risk (per million)	Chronic Hazard Index	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Project					
Proposed Project (Including Tier 4 Construction Equipment)	Diesel Construction Equipment	25	5.590	0.0048	0.1004

Source	Source Name/Type	Distance from MEIR (feet)	Cancer Risk (per million)	Chronic Hazard Index	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Existing Roadways					
Existing Roadways		See footnote	10.550	0.025	0.020
Cumulative Health Risks					
Cumulative Total			**16.14**	**0.0298**	**0.1204**
Bay Area Air District Cumulative Thresholds of Significance			**100**	**10**	**0.8**
Threshold Exceedance?			**No**	**No**	**No**

Notes:
Roadway cancer risk, chronic/hazard index, and $PM_{2.5}$ are derived from Bay Area Air District screening tools and represent estimated health risks and concentrations at the MEIR.

As noted in Table 8, the cumulative impacts from mitigated project construction and existing sources of TACs would be less than the Bay Area Air District cumulative thresholds of significance for cancer risk and non-cancer chronic hazard and annual $PM_{2.5}$ concentrations. Therefore, the proposed project, along with cumulative sources of TAC emissions within 1,000 feet, would be below the Bay Area Air District's cumulative thresholds of significance.

The Project as a Receptor–Non-CEQA Impact

The proposed project would locate new sensitive receptors (residents) that could be subject to existing sources of TACs at the project site. However, the California Supreme Court concluded in *California Building Industry Association v. Bay Area Air District* 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. In some instances, it may be appropriate to evaluate impacts of existing surrounding source on a project's future users using the Bay Area Air District risks and hazards thresholds for guidance.

In any event, new project planning should pay special attention to the siting of new sensitive receptors near existing sources or air pollution to safeguard the health and safety of the residents. The latest CBC update from 2022 requires heating, ventilation, and air conditioning (HVAC) systems with Minimum Efficiency Reporting Values (MERV)-13 or better filtration in newly constructed single-family homes which serves to effectively mitigate the impacts of particulate TACs and $PM_{2.5}$ for indoor exposure.

To determine the necessity of measures beyond those already required for the proposed project through compliance with regulations, the Bay Area Air District screening analysis was applied at the project site to evaluate whether existing TACs that could adversely affect individuals living within the

proposed project. The Bay Area Air District-provided tools for screening potential sources of TACs were used for this purpose.

Table 9 summarizes the cumulative health impacts at the project site at project buildout. The table summarizes the risk based on outdoor air concentration, also accounting for MERV-13 filters, assuming an overall reduction of 80 percent for particulate matter. The table shows that the risks and hazards for new residents at the proposed project site would be below both the single source project threshold of 10 in 1 million and the cumulative threshold of 100 in 1 million.

Table 9: Summary of the Cumulative Health Impacts at the Proposed Project Site

Source Name/Type	Distance from Project Site[1] (feet)	Cancer Risk (per million)	Chronic Hazard Index	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Existing Roadways				
Existing Roadways	See footnote	13.00	0.030	0.224
Cumulative Health Risks				
Cumulative Total (outdoor air)		13.0	0.030	0.224
Cumulative Total with MERV filters		**2.60**	**0.006**	**0.045**
BAAQD Single Source Thresholds of Significance		**10**	**1**	**0.3**
Bay Area Air District Cumulative Thresholds of Significance		**100**	**10**	**0.8**
Threshold Exceedance?		**No**	**No**	**No**

Notes:
[1] µg/m = micrograms per cubic meter
Bay Area Air District = Bay Area Air Quality Management District
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
Conclusions assume emissions remain constant with time.
The nearest contributing roadway with high traffic values is Saint Helena Highway (SR-29) located approximately 1,145 feet west of the project site.
Greatest value for cancer risk, chronic hazard index and annual PM2.5 concentrations on-site was found at coordinates 559810 UTM E, 4243266 UTM N on the southern side of the proposed site.
Source: Appendix B.

As shown in Table 9, the cumulative health impacts to the future on-site residents from existing TAC emission sources located within 1,000 feet of the project site are below Bay Area Air District's cumulative significance thresholds for cancer risk, chronic hazards, and annual $PM_{2.5}$ concentrations. As such, the proposed project would result in a less than significant cumulative health impact related to exposing sensitive receptors to substantial concentrations of pollutants. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its

site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

d) Odors

Would the project: Result in other emissions (such as those leading to odors or) adversely affecting a substantial number of people?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly determine significant environmental impacts pertaining to objectionable odors. However, the Prior FEIR discerned that the 2020 General Plan would have a less than significant impact on air quality impacts if it established buffer zones around land uses that would emit odors or TACs following criteria adopted by the Bay Area Air District. As previously mentioned, the Prior FEIR recognized that potential conflicts could arise between agricultural and residential land uses, along with industrial developments, with the implementation of the 2020 General Plan, resulting in exposing residential uses to odors and other nuisances. However, Policy LU-3.2 of the 2020 General Plan would require agricultural setbacks between residential land uses and agricultural land along the RUL, and Policy LU-7.4 would require the City to ensure industrial development to minimize air emissions and other nuisances, including objectionable odors. As such, the Prior FEIR determined that implementation of the 2020 General Plan would satisfy the Bay Area Air District criteria pertaining to establishing buffer zones around land uses that would generate odors and TAC and, thus, would result in a less than significant impact related to other emissions, such as odors.[34]

Proposed Project Analysis and Conclusion

According to Bay Area Air District 2022 CEQA Guidelines, odor impacts could occur if the proposed project introduces a new odor source near existing receptors. The presence of odor impacts is dependent on several variables, including the nature of the odor source (e.g., wastewater treatment plant, food processing plant), frequency of the odor, intensity of the odor, distance of the odor to sensitive receptors, wind direction, and sensitivity of the receptor. Residential homes are not odor-generating land uses.

Construction-related Odors

Potential sources that may emit odors during construction activities include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions, the intermittent nature of construction activities, the distance from project construction and nearby receptors, and the highly diffusive properties of diesel PM exhaust, nearby receptors would not be affected by diesel exhaust odors associated with project construction. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site. The

[34] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.10-1 – 3.10-5. December 1

proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature.

Operation-related Odors

The proposed project would construct 51 new single-family houses and 12 ADUs whose operations could lead to odors from associated residential laundry cleaning, vehicle exhaust, outdoor cooking, and waste disposal. However, such odors generated by project operation would be small in quantity and duration and would not pose an objectionable odor impact to future and existing receptors.

To summarize, the proposed project would not generate any peculiar emissions nor odors that adversely affect a substantial number of people. This impact would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Air Quality, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.4 Biological Resources *Would the project:*					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	Significant and unavoidable impact				
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 United States Fish and Wildlife Service?	Less than significant impact				
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				
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				

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less than significant impact				
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?	Not Applicable				

Preliminary review of the proposed project identified effects related to species that are peculiar to the project site. Accordingly, pursuant to the CEQA Guidelines Section 15183(b) mandate that additional environmental review be limited to only those issues that are peculiar to the project or parcel, potential impacts related to Biological Resources will be evaluated under separate cover to identify any potential impacts along with any available mitigation.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.5 Cultural and Tribal 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	No	No	No	No
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Less than significant impact	No	No	No	No
c) Disturb any human remains, including those interred outside of formal cemeteries?	Not Applicable	No	No	No	No
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	Not Applicable	No	No	No	No
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. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	Not Applicable	No	No	No	No

a) Historical Resources

Would the project: Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that the City has an active preservation program with policies and laws designed to protect and enhance historical structures and archaeological sites within the City. The City developed its survey districts in the 1970s, resulting in the inclusion of 31 properties into the National Register of Historic Places (NRHP), one State of California Historic Landmark, and 26 properties given a local landmark designation by the City. Additionally, the Prior FEIR acknowledged that implementation of the 2020 General Plan could result in infill development within unknown locations in the City, making impacts on historical structures unknown. However, the Prior FEIR claimed that the 2020 General Plan contains a variety of policies and implementation programs within Chapter 6, Historic Resources, which would assist in preserving and protecting historical structures from new development, identify structures and other historical resources eligible for preservation, and provide strategies through programs, alternatives, and incentives to assist in the preservation of historic structures or sites. Furthermore, the Land Use Element of the 2020 General Plan establishes policies for the preservation of historic neighborhoods and districts and to ensure future infill development is consistent with the relationships and patterns of the surrounding historical neighborhoods. Therefore, the General Plan 2020 FEIR concluded that implementation of the 2020 General Plan would result in less than significant impacts to historical resources within the City.[35]

Proposed Project Analysis and Conclusion

Section 15064.5 of the CEQA Guidelines defines a historical resource as (1) a resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR); (2) a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting certain State guidelines; or (3) an object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided that the lead agency's determination is supported by substantial evidence in light of the whole record.

On May 13, 2020, and February 15, 2024 (update), FirstCarbon Solutions (FCS) sent a records search request to the Northwest Information Center (NWIC) located in Rohnert Park. The records search focused on an approximately 0.5-mile radius surrounding the project site. To identify any historic properties on or near the site, current inventories of the NRHP, the CRHR, the California Historical Landmarks (CHL) list, the California Points of Historical Interest (CPHI) list, and the California Built Environmental Research Directory (BERD) for Napa County were also reviewed to determine the presence of previously documented local historical and archaeological resources.

[35] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Pages 3.5-3 – 3.5-4. December 1

The results of the record searches indicate there are two recorded historic era resources (P-28-000966 (Railroad bed) and P-28-001547 (Napa Valley Railroad)) within the 0.5-mile search radius of the project site, none of which are within the project boundaries. Each of these resources is associated with railroad infrastructure located outside of the project site and would remain unaffected by the proposed project. In addition, seven area-specific survey reports (S-13577, S-21260, S-21631, S-24577, S-32235, S-38960, S-44293) are on file with the NWIC within a 0.5-mile search radius of the project site. None of the survey reports address the proposed project site, indicating that the project site has not been previously surveyed for cultural resources.

A pedestrian survey of the project site on June 16, 2020, encountered one structure that is over 45 years in age and had not been evaluated for historic significance and possible listing on the CRHR or NRHP. Further evaluation of the building (1583 El Centro Avenue) indicates that it does not qualify as a historical resource under the CRHR, NRHP, or local register resulting from its lack of important historical associations and architectural merit (Confidential Appendix C, California Department of Parks and Recreation [DPR] Form). However, consistent with Napa Municipal Code 15.52.080, the demolition of a building greater than 45 years old and not listed on the Historic Preservation Inventory shall require a historic clearance prior to issuance of a demolition permit.

While unlikely, subsurface construction activities always have potential to damage or destroy previously undiscovered historic resources. Historic resources can include wood, stone, foundation, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, and other refuse. Implementation of IM CUL-1, IM CUL-2, and IM CUL-3 pursuant to 2020 General Plan Policies HR-6.1 and HR-6.2 would ensure that this potential impact is reduced to a less than significant level. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Archaeological Resources

Would the project: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that future development within the City from the implementation of the 2020 General Plan could uncover archaeological and prehistoric sites, including those from Native American Tribes that inhabited the region based on previous studies conducted in the area. Since ground-disturbing activities would likely be conducted during construction for future developments from the implementation of the 2020 General Plan, the Prior FEIR concluded that development could result in the disturbance to significant subsurface historical and archaeological resources. However, the Prior FEIR determined that the 2020 General Plan contains policies addressing the damaging of any archaeological resources which are consistent with the Office of Historic Preservation (OHP) on mitigating impacts from future development. Furthermore, Policies HR-6.1 through HR-6.2 require investigations to identify and protect prehistoric sites and resources, including for proposed

developments planned in identified archaeologically sensitive areas. Although the 2020 General Plan contains policies and implementation programs intended to reduce impacts to uncovering significant archaeological resources, implementation of the 2020 General Plan could still uncover and disturb significant archaeological resources from ground disturbance initiated by future developments. As such, future development would be required to comply with standard mitigation requirements detailed in Napa Policy Resolution No. 27. These require that if any archaeological materials or objects are unearthed during project construction, all work in the vicinity shall be immediately halted until a qualified Archeologist is retained by the City to evaluate the finds. The proposed project developer shall comply with all mitigation recommendations of the Archaeologist prior to commencing work in the vicinity of the archaeological finds. Therefore, the Prior FEIR concluded that impacts would be less than significant.[36]

Proposed Project Analysis and Conclusion

Section 15064.5 of the CEQA Guidelines defines significant archaeological resources as resources that meet the criteria for historical resources, as discussed above, or resources that constitute unique archaeological resources. A project-related significant adverse effect could occur if a project were to affect archaeological resources that fall under either of these categories.

Record search results from the NWIC indicate there are two recorded historic era resources (P-28-000966 (Railroad bed) and P-28-001547 (Napa Valley Railroad)) within the 0.5-mile search radius of the project site, none of which are within the project boundaries. Neither are archaeological in nature. A thorough pedestrian survey of the site and surroundings failed to identify archaeological resources or raw materials traditionally utilized in the production of those resources.

In addition to the pedestrian survey, the potential for unidentified cultural resources to exist in the project vicinity was reviewed against geologic, topographic, and Geographic Information System (GIS) data for the general area and information from other nearby projects. The proposed project was evaluated against a set of criteria identified by a geoarchaeological overview of the Central Valley that was prepared for Caltrans District 4. This study mapped the “archaeological sensitivity,” or potential to support the presence of buried pre-contact archaeological deposits, throughout the Central Valley based on geology and environmental parameters, including distance to water and landform slope. The methodology used in the study is applicable to other parts of California and concluded that sites consisting of flat, Holocene-era deposits in close proximity to water resources have a moderate to high probability of containing subsurface archaeological deposits when compared to earlier Pleistocene deposits situated on slopes or further away from drainages, lakes, and rivers.

The project site is situated on relatively flat land and in close proximity to Salvador Channel, which runs east–west across the southern portion of the project boundary. According to the DOC geological survey map, the surface of the project site is situated entirely on Pleistocene deposits consisting of alluvium, lake, playa, and terrace deposits. The project site’s proximity to Salvador Channel, its

[36] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.5-1. December 1

relatively flat terrain, and proximity to historic resources within a 0.5-mile radius suggests a moderate potential for unanticipated buried cultural resources to be impacted by project construction.

While the pedestrian survey data and disturbed nature of the site indicate a low to moderate likelihood of encountering archaeological resources during project construction, subsurface construction activities always have potential to damage or destroy previously undiscovered archaeological resources. Archaeological resources could consist of, but are not limited to, stone, bone, wood, or shell artifacts or features, including hearths and structural elements. Damage or destruction of these resources would be a potentially significant impact. Consistent with the 2020 General Plan Policies HR-6.1 and HR-6.2, implementation of IM CUL-1, IM CUL-2, and IM CUL-3, which require archaeological monitoring, as well as archaeological and TCR training for staff, and contingencies in the event of a cultural resource discovery, would ensure that this potential impact is reduced to a less than significant level. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Human Remains

Would the project: Disturb any human remains, including those interred outside of formal cemeteries?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address impacts related to disturbing human remains. However, the Prior FEIR claimed that the 2020 General Plan would continue to enforce Napa Policy Resolution No. 27, which supplements the California Code of Regulations Section 15064.5(e) on procedures to be taken on the accidental discovery of human remains, including ceasing all construction activity until proper examination is conducted by a qualified professional Archaeologist and providing appropriate methods for reburial to prevent future subsurface disturbance that could impact the remains. Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

The results of the NWIC record search results indicate that there are no known historic or prehistoric resources in the project site. No human remains or cemeteries are known to exist within or near the project site. 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. This would be a potentially significant impact. In the event of accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Section 5097.94 and Section 5097.98 must be followed. In the unlikely event human remains are discovered, consistent with 2020 General Plan Policy HR-6.3 and Napa Policy Resolution No. 27, implementation of IM CUL-4, which provides contingencies in the event human remains are discovered, would reduce this potential impact to a less than significant level. Therefore, the proposed project does not have any project-

specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

d) Listed or Eligible 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 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)?**

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. However, the Prior FEIR addressed potential impacts to Tribal Cultural Resources (TCRs), acknowledging that prehistoric sites from Native Americans could be present in the region based on previous studies. As such, policies identified in the 2020 General Plan to preserve and protect prehistoric resources apply to TCRs, including Policy HR-6.1, under which the City would enforce current federal and State procedures to identify, preserve, and protect prehistoric sites. In addition, Napa Policy Resolution No. 27, which follows procedures from California Code of Regulations Section 15064.5(e) on the accidental discovery of human remains, also would apply to TCRs if the County Coroner were to identify humans remains to be Native American. The Coroner would then contact the Native American Heritage Commission (NAHC) to determine the Most Likely Descendant (MLD) for recommendations to appropriately treat and dispose of those human remains. Since future development from the implementation of the 2020 General Plan would involve ground disturbance, the Prior FEIR concluded that disturbance to subsurface historical resources and archaeological sites, including those from Native American Tribes, would have a potentially significant impact. However, future development would be required to abide by federal and State procedures protecting archaeological resources, including TCRs. Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

A review of the CRHR, local registers of historic resources, and the NWIC records search results failed to identify any previously listed TCRs that may be adversely affected by the proposed project. The NAHC Sacred Lands File (SLF) search also produced a negative result for the presence of Native American cultural resources within the project site. The NAHC included a list of 12 Tribal representatives available for consultation. To ensure that all Native American knowledge and concerns over potential TCRs that may be affected by the proposed project are addressed, a letter containing project information was sent by FCS to each Tribal representative on May 9, 2024. No responses to the FCS letter have been received to date.

On April 24, 2024, the City of Napa sent out Tribal consultation letters pursuant to AB 52 to identify additional significant TCRs meeting the criteria set forth in subdivision (c) of the Public Resources Code Section 5024.1. Tribes have 30 days to respond and request consultation. On April 30, 2024, a letter from the Confederated Villages of Lisjan Nation was received, requesting a copy of the CEQA documentation for the proposed project, Phase I Cultural Resources Assessment (Phase I CRA), the California Historical Resources Information System (CHRIS) results, and the SLF records search from the NAHC. The City provided the Confederated Villages of Lisjan Nation with the Phase I CRA, the CHRIS results, and the SLF records search results from the NAHC on July 10, 2024. The Tribe responded on July 10, 2024, stating that they will defer to any other Tribal Nations affiliated with the area. No additional AB 52 responses have been received to date.

Should any undiscovered TCRs be encountered during project construction, implementation of IM CUL-1, IM CUL-2, IM CUL-3, and IM CUL-4, which address archaeological and TCR training for construction personnel, archaeological monitoring, and inadvertent discovery of cultural resources and human remains, pursuant to 2020 General Plan Policies HR-6.1, HR-6.2, and HR-6.3, would reduce potential impacts on TCRs to a less than significant level. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

e) Lead Agency Determined 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 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?

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. As previously mentioned, the Prior FEIR did acknowledge prehistoric sites from Native American Tribes to encompass the region where future development from the implementation of the 2020 General Plan could unearth subsurface historical structures and archaeological sites, including sites from Native American Tribes. However, policies from the 2020 General Plan, such as Policy HR-6.1 and Policy HR-6.2, would enforce current federal and State procedures to identify, preserve, and protect prehistoric sites, which applies to those identified to be associated with Native American Tribes, and to conduct investigations for proposed developments encompassing archaeologically sensitive areas. Furthermore, Napa Policy Resolution No. 27, which supports California Code of Regulations Section 15064.5(e) on the accidental discovery of human remains, also protects TCRs through consultation with the NAHC to determine the MLD if the human remains are identified by the County Coroner to be Native American. The MLD

would then provide recommendations for proper treatment and disposal of those remains. Although ground-disturbing activities could result in the disturbance to prehistoric sites, including those from Native American Tribes, the policies identified in the 2020 General Plan would be enforced for future projects from the implementation of the 2020 General Plan. Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

A review of the CRHR, local registers of historic resources, and the NWIC records search results failed to identify any previously listed TCRs that may be adversely affected by the proposed project. The NAHC SLF search produced a negative result for the presence of Native American cultural resources within the project site. The NAHC included a list of 12 Tribal representatives available for consultation. To ensure that all Native American knowledge and concerns over potential TCRs that may be affected by the proposed project are addressed, a letter containing project information was sent to each Tribal representative on May 9, 2024. No responses have been received to date. A copy of the NAHC record searches and Native American Tribal correspondences can be found in Appendix C.

However, on April 24, 2024, the City of Napa sent out Tribal consultation letters pursuant to AB 52 to identify additional significant TCRs meeting the criteria set forth in subdivision (c) of the Public Resources Code Section 5024.1. Tribes have 30 days to respond and request consultation. On April 30, 2024, a letter from the Lisjan Nation was received, requesting a copy of the CEQA documentation for the proposed project, Phase I CRA, the CHRIS report, and the SLF records search from the NAHC. The Tribe responded on July 10, 2024, stating that they will defer to any other Tribal Nations affiliated with the area. No additional AB 52 responses have been received to date.

Should any undiscovered TCRs be encountered during project construction, implementation of IM CUL-1, IM CUL-2, IM CUL-3, and IM CUL-4, which address archaeological and TCR training for construction personnel, archaeological monitoring, and inadvertent discovery of cultural resources and human remains, pursuant to 2020 General Plan Policies HR-6.1, HR-6.2, and HR-6.3, would reduce potential impacts on TCRs to a less than significant level. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Project-specific Implementation Measures

In order to fully comply with 2020 General Plan Policies HR-6.1, HR-6.2, and HR-6.3, the proposed project would be required to implement the following Implementation Measures (IMs):

IM CUL-1 Archaeological and Tribal Cultural Resources Training for Construction Staff

An Archaeologist who meets the Secretary of the Interior's qualification standards for archaeology shall attend the pre-construction meeting with the contractors to provide Worker Environmental Awareness Program (WEAP) training for all construction personnel who will be engaging in ground-disturbing activities. The training shall include a brief review of the cultural sensitivity of the proposed project and the surrounding area; what resources could potentially be identified during earthmoving activities, along with visual aids/appropriate examples of those resources; applicable federal, State, and local statutes governing the protection of archaeological resources; and the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly assessed. A sign-in sheet shall be circulated and returned to the Lead Agency as confirmation the training has taken place.

IM CUL-2 Archaeological Monitoring

An Archaeological Monitor reporting to the qualified Archaeologist shall be present to monitor during the clearing, grubbing, trenching, and grading phases of project-related ground disturbance to check for inadvertent exposure of archaeological resources or human remains. Over the course of the proposed project, should the Archaeologist determine that the probability of inadvertent discovery is low, they may make a recommendation to the Lead Agency that monitoring be reduced to regular periodic or "spot-check" monitoring, or that monitoring may cease altogether.

IM CUL-3 Inadvertent Discovery of Cultural Resources

In the event that buried cultural resources are discovered during construction, operations shall stop within a 100-foot radius of the find and a qualified Archaeologist shall be consulted to determine whether the resource requires further study. The qualified Archaeologist shall make recommendations to the Lead Agency on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Potentially significant cultural resources consist of, but are not limited to, stone, bone, fossils, wood, or shell artifacts or features, including hearths, structural remains, or historic dumpsites. Any previously undiscovered resources found during construction within the project site shall be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA Guidelines.

If the resources are determined to be unique historic resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the lead agency. Appropriate mitigation measures

for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.

No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any archaeological artifacts recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the Lead Agency where they would be afforded long-term preservation to allow future scientific study.

IM CUL-4 Inadvertent Discovery of Human Remains

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 Section 5097.94 and Section 5097.98 must be followed. If during 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 of the site where human remains are discovered and/or any nearby area reasonably suspected to overlie adjacent human remains until the Napa County Coroner is contacted to determine whether 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, 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 MLD or on the project area in a location not subject to further subsurface disturbance.
    - The NAHC is unable to identify MLD or the MLD failed to make a recommendation within 48 hours after being notified by the Commission;
    - The descendant identified fails to make a recommendation; or
    - The landowner or his or her 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 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.

Conclusion

With regard to Cultural Resources and TCRs, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.6 Energy *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	No	No	No	No
b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	Not Applicable	No	No	No	No

a) Energy Use

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

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that new development from the implementation of the 2020 General Plan would increase the use of nonrenewable resources, including the consumption of a certain amount of fossil fuel resources throughout operation of new development, which could result in wasteful, inefficient, or unnecessary energy consumption. Although these changes in the Prior FEIR are considered significant irreversible environmental changes, the General Plan FEIR determined that with policies and implementation programs addressed in the 2020 General Plan, such as Policy NR-5.1 and Policy NR-5.2, which encourage future developments to construct infrastructure advocating alternative modes of transportation, along with implementing land use patterns and management practices intended to conserve air and energy sources, the changes would not result in the substantial increase in energy consumption. In addition, the Prior FEIR highlighted that future development would be required to abide by Napa Policy Resolution No. 27, which mandates construction and operation of a development project to incorporate energy conservation measures. Furthermore, the Prior FEIR emphasized that the majority of future development from the implementation of the 2020 General Plan would occur within the existing RUL and would connect to already established utility lines. Additionally, those areas to be incorporated into the RUL would not

require the construction of major infrastructure facilities and, therefore, would not require a substantial increase in energy consumption. As such, the Prior FEIR concluded that development associated with the implementation of the 2020 General Plan would not substantially increase overall per capita energy consumption, reliance of natural gas and oil, or increase local and regional energy supplies.[37] Therefore, the Prior FEIR concluded that the 2020 General Plan would result in less than significant impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources.

Proposed Project Analysis and Conclusion

A discussion of the proposed project's anticipated energy usage is presented below. Energy use consumed by the proposed project was estimated and includes natural gas, electricity, and fuel consumption for project construction and operation. Energy calculations are included as part of Appendix B.

Construction Impacts

The project construction schedule was assumed to begin in September 2025. It is anticipated that construction would require approximately 18 months of activities; however, it is possible that the actual schedule may last up to 36 months, though this would not result in any additional workdays. If the construction schedule moves to later years, construction emissions would be expected to decrease because of improvements in technology and more stringent regulatory requirements as older, less efficient equipment is replaced by newer and cleaner equipment. Therefore, the modeling and analysis represents a conservative, worst-case scenario. The proposed project would require demolition, site preparation, grading, building construction, architectural coating, and paving. The construction phase would require energy for the manufacture and transportation of building, roadway, sidewalk and multiuse trail materials, preparation of the site (e.g., demolition, site clearing, and grading), and the actual construction of the buildings, interior road, sidewalk (including curb and gutter) and multiuse trail. Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy for these tasks.

The types of on-site equipment used during construction of the proposed project could include gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, front-end loaders, forklifts, and cranes. Construction equipment is estimated to consume a total of 56,002 gallons of diesel fuel over the entire construction duration (Appendix B).

Fuel use associated with construction vehicle trips generated by the proposed project was also estimated; trips include construction worker trips, haul truck trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the project site was based on (1) the projected number of trips the proposed project would generate during construction, (2) average trip distances by trip type, and (3) fuel efficiencies estimated in the ARB Emission Factors Mobile Source Emissions Model (EMFAC). The specific parameters used to estimate fuel usage are included in Appendix B. In total, the proposed project is estimated to generate 112,121

[37] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-16 — 3.4-17. December 1

VMT and utilize a combined 10,787 gallons of gasoline and diesel for vehicle travel during construction.

Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools. Napa Municipal Code Section 8.08.025 defines permissible hours of construction as between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday.[38] As on-site construction activities would be restricted to these hours, it is anticipated that the use of construction lighting would be minimal. Single-wide mobile office trailers, which are commonly used in construction staging areas, generally range in size from 160 square feet to 720 square feet.

The overall construction schedule and process is already designed to be efficient to avoid excess monetary costs. For example, equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, the opportunities for future efficiency gains during construction are limited. As such, it is anticipated that the construction phase of the proposed project would not result in wasteful, inefficient, and unnecessary consumption of energy. Construction-related energy impacts would be less than significant.

Operational Impacts

The proposed project would consume energy as part of building operations and transportation activities. PG&E provides electric and natural gas services to the City of Napa with four electric substations and two major gas systems and would be the energy provider for the proposed project. Operation of the proposed project would consume an estimated 399,624 kilowatt-hours (kWh) of electricity on an annual basis. It is anticipated that PG&E would have the capacity to supply this energy without incurring an impact to local energy supplies (see Impact 4.18(a)). The proposed project's building would be designed and constructed in accordance with the City's latest adopted energy efficiency standards, which are based on the State's Building Energy Efficiency Standards. These are widely regarded as the most advanced building energy efficiency standards and compliance would ensure that building energy consumption would not be wasteful, inefficient, or unnecessary. Additionally, the proposed residential uses would be required under the 2022 CBC, Title 24, Part 6, Subchapter 8, to include rooftop solar panels at the time those uses are developed.[39]

As previously discussed, the proposed project would be considered to result in a potentially significant impact if it would result in wasteful, inefficient, or unnecessary consumption of energy resources. Considering the guidance provided by Appendix F of the CEQA Guidelines, the goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

[38] City of Napa. Municipal Code 8.08.025 Noise—Construction activity. Website: https://ecode360.com/43391434#43391434. Accessed May 7, 2025.

[39] International Code Council (ICC). 2022. 2019 California Building Standards Code (CBC), Title 24, Part 6, Subchapter 8 Low-Rise Residential Building—Performance and Prescriptive Compliance Approaches.

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

Decreasing Overall Per Capita Energy Consumption

Project-related vehicle trips would consume fuel throughout the life of the proposed project due to project resident vehicles and delivery vehicles. Project-related vehicle trips would consume an estimated 41,556 gallons of gasoline and diesel annually (Appendix B). Regional access to the project site is provided by SR-29, which is approximately 1,000 feet from the proposed project site at its nearest location. As a result, the proposed project is located near regional and local roadways that would provide convenient access for future residents and employees. In addition, the proposed project includes the construction of a sidewalk along El Centro Avenue, as well as the construction of a new, multiuse trail, thus providing additional pedestrian and/or bicycle connectivity to reduce VMT. Therefore, transportation fuel consumption would not be wasteful, inefficient, or unnecessary.

Furthermore, the proposed project's buildings would be designed and constructed in accordance with the California Green Building Standards Code (CALGreen) energy efficiency standards of Title 24. Title 24 standards include a broad set of energy conservation requirements that apply to the structural, mechanical, electrical, and plumbing systems in a building for the purposes of reducing energy consumption. For example, the Title 24 Lighting Power Density requirements define the maximum wattage of lighting that can be used in a building based on its square footage. Title 24 standards, widely regarded as the most advanced energy efficiency standards, would help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in buildings and promote energy conservation. Therefore, the proposed project would be consistent with this criterion.

Decreasing Reliance on Fossil Fuels

The proposed project would be considered to conflict with this criterion if it did not take steps to decrease the reliance on fossil fuels. The proposed project would comply with 2022 Title 24 Building Energy Efficiency Standards and CALGreen requirements, which require electric vehicle (EV) charging infrastructure, as well as electric-ready requirements and solar photovoltaic and battery storage standards. The inclusion of these features would contribute to an acceleration of EV adoption and facilitate an increase in EV and clean air and high occupancy vehicle use by residents, employees, and visitors of the proposed project, though they cannot guarantee a reduction in energy usage. The features would also serve to reduce fossil fuel use by promoting solar power storage and electric heat pumps.

Increasing Reliance on Renewable Energy Sources

As stated, the proposed project would comply with 2022 Title 24 Building Energy Efficiency Standards and CALGreen requirements, which require EV charging infrastructure, as well as electric-ready requirements and solar photovoltaic and battery storage standards. As such, the proposed project

would facilitate a greater dependence on renewable energy sources for building and transportation energy demands. Therefore, the proposed project would be consistent with this criterion.

Overall

As discussed above, the proposed project's energy consumption would not result in the wasteful, inefficient, or unnecessary consumption of energy resources, consistent with the guidance derived from Appendix F of the CEQA Guidelines and the Appellate Court decision in *League to Save Lake Tahoe Mountain etc. v. County of Placer* (2022) 75 Cal.App.5th 63, 164–168. The construction-related and operation-related impacts related to electricity, natural gas, and fuel consumption would be less than significant. Therefore, the proposed project would not introduce new significant environmental impacts or substantially increase the severity of previously analyzed significant effects under any scenario. Impacts would remain less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Energy Efficiency and Renewable Energy Standards Consistency

Would the project: Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address impacts related to conflicting with State or local renewable energy or energy efficiency plans. However, the Prior FEIR identified policies and implementation programs within the 2020 General Plan, such as Policy NR-5.2, which promotes the implementation of land use patterns and management practices to conserve air and energy resources; Policy NR-5.3, which encourages the advancement of energy efficiency and conservation improvement programs intended to decrease the amount of energy generated from facilities; and Napa Policy Resolution No. 27, which requires construction and operation of development projects to incorporate energy conservation measures following applicable ordinances and codes. As such, the Prior FEIR recognized policies and implementation programs within the 2020 General Plan that would not conflict with State or local renewable energy or energy efficiency plans.

Proposed Project Analysis and Conclusion

Construction

The proposed project would result in energy consumption through the combustion of fossil fuels. The proposed project would utilize a construction fleet meeting Tier 4 Interim or Final Off-road Standards, which are among the most stringent and efficient equipment available. In addition to fuel savings from the Tier 4 equipment, 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)(3) and 2485 limit idling for both on-road and off-road diesel-powered equipment, as enforced by the ARB. The proposed project would be required to comply with these regulations. There are no renewable energy standards that would apply to construction of the proposed project. As a result,

construction would not conflict with or obstruct any regulations adopted for the purposes of increasing the use of renewable energy. Furthermore, it is anticipated that construction of the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, the proposed project would result in less than significant impacts related to construction energy efficiency and use of fossil fuels or decreased use of renewable resources.

Operation

The proposed project would be served with electricity provided by PG&E. In 2023, PG&E obtained 32.8 percent of its electricity from eligible renewable energy sources (including biomass and biowaste, geothermal, eligible hydroelectric, solar, and wind), while the remaining electricity was sourced from large hydroelectric (13.8 percent) and nuclear (53.4 percent).[40] While PG&E's 2023 Renewable Portfolio Standard (RPS) reporting showed that only 32.8 percent of electricity sales sourced from eligible renewable sources, the RPS requirements apply to a 3-year average of utility provider electricity sourcing to allow for fluctuations in market demand and supply availability. Nonetheless, the electricity provider is required to meet the State's objective of 60 percent renewables by 2030.[41]

The buildings of the proposed project would be designed and constructed in accordance with California Code of Regulations Title 24, California's Energy Efficiency Standards for Residential Buildings, as applicable. These standards include minimum energy efficiency requirements related to the building envelope, mechanical systems (e.g., HVAC and water heating systems), and indoor and outdoor lighting.

The proposed project would be built in accordance with the 2022 Title 24 Energy Efficiency and CALGreen standards, including efficient electric heat pumps, electric-ready requirements, and solar photovoltaic and battery storage requirements. The proposed project would also include the addition of a sidewalk on El Centro Avenue and a multi-purpose trail, both of which will serve to promote non-vehicular travel and reduce VMT. As the proposed project would be built to applicable Title 24 Energy Efficiency and CALGreen standards, the proposed project would be consistent with relevant energy efficiency-related General Plan goals identified in the City's 2020 General Plan. Therefore, the energy impacts of the proposed project would be less than significant.

Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

[40] California Energy Commission (CEC). 2022. Power Content Label. Website: https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure-program/power-content-label. Accessed May 7, 2025.

[41] California Public Utilities Commission (CPUC). 2024. Renewables Portfolio Standard Program. Website: https://www.cpuc.ca.gov/rps/. Accessed May 7, 2025.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Energy, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.7 Geology and Soils *Would the project:*					
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	Not Applicable	No	No	No	No
ii) Strong seismic ground shaking?	Less than significant impact	No	No	No	No
iii) Seismic-related ground failure, including liquefaction?	Less than significant impact	No	No	No	No
iv) Landslides?	Less than significant impact	No	No	No	No
b) Result in substantial soil erosion or the loss of topsoil?	Not Applicable	No	No	No	No
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,	Less than significant impact	No	No	No	No

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
subsidence, liquefaction or collapse?					
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Not Applicable	No	No	No	No
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?	Less than significant impact	No	No	No	No
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Not Applicable	No	No	No	No

a) Earthquake Hazards

Would the project: **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: (i)Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (ii) Strong Seismic Ground Shaking; (iii) Seismic-related ground failure, including liquefaction; or (iv) Landslides.**

i) Fault Rupture

Summary of 2020 General Plan FEIR

The Prior FEIR identified three active fault lines that directly transect Napa County, consisting of the Cordelia, Green Valley, and West Napa fault lines, which are capable of generating an earthquake with a magnitude 6.7 on the Richter Scale and an intensity between VIII–IX on the Modified Mercalli Intensity Scale (MMS). Although the Prior FEIR did not directly address impacts related to fault

rupture, Chapter 8, Health and Safety, of the 2020 General Plan acknowledges impacts generated from seismic events and where policies can be implemented to reduce impacts pertaining to fault rupture, such as Policy HS-1.2, which discourages the development of major facilities or those with high occupancy in areas subject to high levels of ground shaking, and Policy HS-1.3 and Napa Policy Resolution No. 27, which require soils and geologic studies for high occupancy developments in areas susceptible to high levels of ground shaking. As such, implementation of these policies would likely avoid future development from being located along fault lines that are susceptible to fault rupture during strong seismic shaking.[42]

Proposed Project Analysis and Conclusion

The City is located in a seismically active region and earthquake-related ground shaking would be expected during the design life of the proposed structures. The project site is not in an Alquist-Priolo Fault Zone, and the closest Alquist-Priolo Fault Zone is the West Napa Fault zone, approximately 2 miles west of the project site.[43] The closest fault is the West Napa Fault, approximately 1.4 miles to the west.[44] The West Napa Fault runs along the western City limit. The risk of fault rupture on-site is low; however, based on the proximity to the West Napa Fault zone and other fault zones in the region, future seismic shaking should be anticipated.[45] Since the project site is not located within a designated Alquist-Priolo Earthquake Hazard Zone, no impacts would occur related to fault rupture. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

ii) Ground Shaking

Summary of 2020 General Plan FEIR

The Prior FEIR identified three active fault lines that directly transect Napa County, the Cordelia, Green Valley, and West Napa fault lines, which are capable of generating an earthquake with a magnitude 6.7 on the Richter Scale and an intensity between VIII–IX on the MMS. As such, the Prior FEIR determined that development associated with implementation of the 2020 General Plan would be susceptible to strong seismic shaking. Therefore, the 2020 General Plan contains policies and programs to minimize impacts related to strong seismic shaking within Chapter 8, Health and Safety, including Policy HS-1.1, HS-1.2, HS-1.3, HS-1.4, and HS-1.6, requiring new structures to conform to seismic requirements adopted by the Uniform Building Code (UBC), discouraging major and high occupancy developments within areas susceptible to high levels of ground shaking, and mandating soil and geologic studies for those proposed developments in areas susceptible to high levels of

[42] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.8-1 – 3.8-3. December 1

[43] California Department of Conservation (DOC). 2024. Earthquake Zones of Required Investigation. Website: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed May 7, 2025.

[44] United States Geologic Survey (USGS). U.S. Quaternary Faults. Website: https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf. Accessed May 7, 2025.

[45] RGH Consultants (RGH). 2018. Geotechnical Study Report: Zinfandel Subdivision. January 10.

ground shaking. As such, the Prior FEIR determined that policies from the implementation of the 2020 General Plan would minimize strong ground shaking to an acceptable level. [46]

Proposed Project Analysis and Conclusion

The project site could experience severe seismic ground shaking similar to other parts of the Bay Area. Strong seismic ground shaking from the West Napa Fault could result in structural failure and collapse of structures or cause non-structural building elements to fall, presenting a hazard to building occupants and a potentially significant impact.

The proposed project would be subject to the most recent CBC requirements for reducing seismic hazards. Seismic design provisions of current building codes generally prescribe minimum lateral forces, which aim to reduce the horizontal force exerted on structures caused by earthquake shaking. Therefore, with implementation of the CBC, it is reasonably assumed that structures on the project site would: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Pursuant to Napa Policy Resolution No. 27's standard specifications, the project applicant would be required to prepare a design-level geotechnical report substantiated by laboratory testing and engineering calculations that incorporates all specific design recommendations into the project construction plans.[47] The design-level geotechnical report would include recommendations regarding grading, foundation design, bearing capacity, and lateral resistance that would prevent significant impacts related to seismic shaking. The City-approved geotechnical engineer would record and verify that all recommendations contained in the design-level geotechnical study are followed during construction.

The CBC is updated every 3 years; the 2022 CBC became effective January 1, 2023, with another update due January 1, 2026. As the Geotechnical Study Report prepared by RGH Consultants (RGH) was completed in 2018, an updated report based on the current version of the CBC would be required prior to construction activities. Implementing Measure (IM) GEO-1 would require that an updated, design-level geotechnical report be prepared by a licensed geotechnical engineer. IM GEO-1 further requires that all recommendations provided in the report be implemented during construction of the proposed project, and that construction activities shall be monitored by a geotechnical engineer to ensure recommendations are implemented properly.

As IM GEO-1 would ensure that the proposed project would be designed consistent with a site-specific geotechnical report based on the current CBC, the potential impacts related to strong seismic ground shaking would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

[46] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.8-1 - 3.8-3. December 1

[47] Napa City Council. 2002. Policy Resolution Number 27. December 3.

iii) Ground Failure

Summary of 2020 General Plan FEIR

The Prior FEIR addressed seismic-related ground failure from liquefaction and identified areas situated on Holocene Alluvium and Bay Muds that consist of poorly consolidated younger alluvium to be highly susceptible to seismic-induced liquefaction. These areas include the length of Napa Creek, along Redwood Creek north of Redwood Road, Browns Valley Creek west of Thompson Avenue, along the Napa River from Trancas Street south to John F. Kennedy Memorial Park, and in the southernmost portion of the City's RUL below SR-29. As such, the Prior FEIR indicated that development induced by implementation of the 2020 General Plan would be susceptible to liquefaction. However, the 2020 General Plan contains policies acknowledging liquefaction, such as Policy HS-1.1 and Policy Resolution No. 27, requiring new structures to conform to the seismic requirements within the UBC, and Policy HS-1.4 mandates special construction features to be incorporated into the design of structures where site investigations determine potential seismic hazards. Therefore, the Prior FEIR concluded that policies from the 2020 General Plan would minimize liquefaction hazards to an acceptable level, and impacts would be less than significant.[48]

Proposed Project Analysis and Conclusion

Liquefaction is the sudden loss of strength in saturated, predominantly granular soil during strong ground shaking, due to increased pore water pressure and decreased effective stress or the portion of total stress on soil that is borne by soil grains. Areas south of the City, along the Napa River, and on the valley floor in the western area of the City are considered to have high liquefaction potential.[49] Densification is the settlement of loose, granular soil above the groundwater level due to earthquake shaking.[50] The Geotechnical Study Report identifies three liquefaction-related hazards that have the potential to occur at the project site: bearing capacity failure, lateral spreading, and settlement. The report concluded that while soil liquefaction has the potential to occur at the project site, the potential for bearing capacity failure, lateral spreading, and settlement at the project site is low.[51]

Granular soil was encountered at the project site below the groundwater table. The potentially liquefiable soil layers are discontinuous, and the shallowest of these soils were observed at 8 feet below ground surface (BGS), which is below the channel bottom. Therefore, liquefaction potential is low. Densification affects granular soil above groundwater level. Because granular soil has only been recorded below the groundwater table at the project site, there is low potential for densification.[52]

The CBC is updated every 3 years; the 2022 CBC became effective January 1, 2023, with another update due January 1, 2026. As the Geotechnical Study Report prepared by RGH was completed in 2018, an updated report based on the current version of the CBC would be required prior to

[48] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.8-1 — 3.8-3. December 1

[49] City of Napa. 2015. City of Napa General Plan (reprinted). September 3.

[50] RGH Consultants (RGH). 2018. Geotechnical Study Report: Zinfandel Subdivision. January 10.

[51] RGH Consultants (RGH). 2018. Geotechnical Study Report: Zinfandel Subdivision. January 10.

[52] Ibid.

construction activities. As such, pursuant to the requirements of Napa Policy Resolution No. 27, IM GEO-1 would require that an updated, design-level geotechnical report be prepared by a licensed geotechnical engineer and that all recommendations within it would be implemented.

As the proposed project would be designed consistent with a site-specific geotechnical report based on the current CBC, the potential impacts related to seismic-related ground failure would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

iv) Landslides

Summary of 2020 General Plan FEIR

The Prior FEIR identified areas within the region and the RUL that are susceptible to landslides, containing steep slopes with a 15 percent slope or greater. These areas within the RUL include Browns Valley, Westwood, the eastern periphery of Alta Heights, and the eastern portion of River East. Furthermore, the Prior FEIR determined that the western side of the Napa Valley is situated on less consolidated sedimentary rock, making it highly susceptible to landslides. As such, the Prior FEIR indicated that the implementation of the 2020 General Plan could result in future developments situated on slopes of 15 percent or greater. However, the Prior FEIR ascertained that policies and implementation programs within Chapter 8, Health and Safety, of the 2020 General Plan require the preparation of erosion control plans on slopes 15 percent or greater, along with proper geotechnical studies to be conducted in areas susceptible to landslides and erosion. Therefore, the Prior FEIR determined that future development associated with the 2020 General Plan would reduce the risk of landslides to less than significant.[53]

Proposed Project Analysis and Conclusion

The project site is relatively flat and not located near hillsides. As such, there would be a low risk of landslides at the project site. There would be no impact related to landslides. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Erosion

Would the project: Result in substantial soil erosion or the loss of topsoil?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address impacts pertaining to soil erosion or loss of topsoil. However, the Prior FEIR mentioned policies and implementation programs within Chapter 8, Health and Safety, of the 2020 General Plan, which are implemented by Napa Policy Resolution No. 27 and include the

[53] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.8-1 – 3.8-3. December 1

preparation of geotechnical studies and erosion control plans in areas subject to landslides and erosion. Napa Policy Resolution No. 27 further requires construction of new developments to minimize ground-disturbing activities and impervious surfaces in high-erosion areas. In addition, Napa Policy Resolution No. 27 requires adherence to the City's Public Works Department Standard Specifications related to ground-disturbing activities, obtaining erosion and sediment control plans, and complying with construction and design recommendations provided by site-specific geotechnical reports or soil investigations. Therefore, the Prior FEIR concluded that the 2020 General Plan contains policies and implementation measures to reduce and minimize impacts pertaining to soil erosion.

Proposed Project Analysis and Conclusion

Soil exposed by construction activities during project construction could be subject to erosion if exposed to heavy rain, winds, or other storm events. A Stormwater Control Plan was prepared on September 15, 2023 (Appendix D), and compliance with this plan would be a condition of issuing a grading permit.[54,55] The Stormwater Control Plan contains site-specific construction Best Management Practices (BMPs) and Low Impact Development (LID) Design Strategies to be implemented, the rationale used for selecting or rejecting BMPs, and a list of applicable permits to be obtained. Napa Policy Resolution No. 27 requires the applicant to incorporate all recommendations included in the site-specific Geotechnical Study Report, such as maintaining dense deep-rooted ground cover on all slopes.[56] Additionally, pursuant to Napa Policy Resolution No. 27, no construction activity shall commence before the Public Works Director issues written approval of the Erosion and Sediment Control Plan.[57] The proposed project would be consistent with the Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit and standards, enforced by the City. Adherence to NPDES requirements during construction and operation would reduce the potential for soil erosion to a less than significant impact. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Unstable Soils or Geologic Units

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

Summary of 2020 General Plan FEIR

The Prior FEIR identified certain areas in Napa Valley and the RUL containing unstable geologic conditions, such as liquefaction and landslides. As such, development generated from the

[54] Trinity Project. 2019. Erosion and Sediment Control Plan. October 17.

[55] Napa City Council. 2002. Policy Resolution Number 27. December 3.

[56] RGH Consultants (RGH). 2018. Geotechnical Study Report: Zinfandel Subdivision. January 10.

[57] Napa City Council. 2002. Policy Resolution Number 27. December 3.

implementation of the 2020 General Plan could occur in areas susceptible to unstable geologic conditions or that could become unstable from the results of such development. However, the Prior FEIR recognized policies and implementation programs in the 2020 General Plan, such as Implementation Program HS-2.B requiring geotechnical studies in areas with high susceptibility to landslides and erosion; Policy HS-2.4 and Implementation Program HS-2.C necessitating the implementation of erosion control plans on 15 percent or greater slopes; and Napa Policy Resolution No. 27, which mandates project compliance with construction and design recommendations addressed in project-specific geotechnical reports and soil investigations. As such, the Prior FEIR confirmed that the 2020 General Plan contains policies and implementation programs that would reduce and minimize risks of subsurface hazards. Therefore, the Prior FEIR concluded that impacts would be less than significant.[58]

Proposed Project Analysis and Conclusion

As discussed above, liquefaction and landslide potential are low for the project site.[59] Site-specific construction design and practices during activities, such as grading, trenching, backfilling, and compaction, would be incorporated pursuant to Policy Resolution No. 27 of the Napa City Council or Public Works Department standard specifications to reduce risks from unstable soil.[60]

As discussed above, an updated geotechnical report based on the current version of the CBC would be required prior to construction activities through the implementation of IM GEO-1 pursuant to Policy Resolution No. 27. As the proposed project would be designed consistent with a City-approved site-specific geotechnical report based on the current CBC, the potential operational impacts related to unstable soil would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

d) Expansive Soils

Would the project: Be located on expansive soil, creating substantial direct or indirect risks to life or property?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address impacts pertaining to expansive soils. However, the Prior FEIR indicated that development projects induced from the 2020 General Plan would adhere to Policy Resolution No. 27, which requires development projects to comply with design and construction recommendations provided in site-specific geotechnical reports and soil investigations prepared for such projects. As such, the Prior FEIR determined that the 2020 General Plan does contain measures that could be implemented to reduce or avoid impacts related to expansive soils.

[58] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.8-1 - 3.8-3. December 1.

[59] RGH Consultants (RGH). 2018. Geotechnical Study Report: Zinfandel Subdivision. January 10.

[60] Napa City Council. 2002. Policy Resolution Number 27. December 3.

Proposed Project Analysis and Conclusion

Expansive soil is soil that displays a “shrink-swell” characteristic, which is described as the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may occur over time as a result of inadequate soil and foundation engineering or the placement of structures directly on expansive soil. Expansive soil may be present throughout the County. The Geotechnical Study Report indicates that the soil at the project site can have a medium to high expansion potential.

Surface soil on the project site can be locally expansive. To reduce the effects of expansive soils, the proposed project would implement recommendations and standard engineering practices of the site-specific Geotechnical Study Report.

As discussed above, an updated geotechnical report based on the current version of the CBC would be required prior to construction activities according to IM GEO-1 pursuant to Policy Resolution No. 27. As the proposed project would be designed consistent with a City-approved site-specific geotechnical report based on the current CBC, the potential operational impacts related to expansive soil would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

e) Septic Tanks

Would the project: Have soils incapable of supporting the use of septic tanks or other alternative wastewater disposal systems where sewers are not available?

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that most of the development to be constructed within the expansion of the RUL associated with the implementation of the 2020 General Plan would occur on infill development sites in an already urbanized area. As such, development projects associated with the implementation of the 2020 General Plan would likely connect to the City’s existing wastewater disposal system. However, in the event that future development would require the construction of septic tanks, the Prior FEIR highlighted measures discussed in the 2020 General Plan, including from Policy Resolution No. 27, which would require development projects to implement recommended construction and design criteria analyzed in site-specific soil investigation or geotechnical reports. These site-specific reports would include design and subsurface recommendations for the construction of any project-related septic tanks or wastewater disposal systems. As such, the Prior FEIR identified measures within the 2020 General Plan that would address site-specific soils unable to support septic tanks. Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

There is an existing septic tank at the project site. This septic tank would be removed per County Health Department standards. Following the removal of the existing septic tank, the proposed project would be served by Napa Sanitation District (NapaSan) via existing and new sanitary sewer laterals. The removal of the existing septic tank would not result in an impact related to this criterion, as this criterion is related to having adequate soil for supporting septic tanks and alternative wastewater disposal systems. As the proposed project would not include the installation or use of septic tanks or alternative wastewater disposal systems, there would be no impact under this criterion. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

f) Destruction of Paleontological Resource or Unique Geologic Feature

Would the project: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Summary of 2020 General Plan FEIR

The checklist question was not included in the Prior FEIR. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the proposed project's potential to directly or indirectly destroy a unique paleontological resource or geologic feature.

Proposed Project Analysis and Conclusion

A Paleontological Records Search conducted by a consulting Paleontologist (Appendix D) concluded that the entire project site is of the latest Pleistocene alluvium, which has a high paleontological sensitivity but usually low or uncertain paleontological potential. Additionally, County paleontological records do not indicate significant paleontological resources from Pleistocene deposits in Napa Valley. Therefore, Pleistocene alluvium in the County has an extremely low potential of yielding significant paleontological resources and impacts would be less than significant. As such, a paleontological walkover survey prior to construction or paleontological monitoring during construction-related excavations are not warranted.[61]

In the unlikely case that any vertebrate remains are unearthed during project construction, the construction crew shall not attempt to remove them pursuant to Policy Resolution No. 27 of the Napa City Council**.** All work in the immediate vicinity of the discovery would be diverted at least 15 feet away from the find until it is assessed by a professional Paleontologist and, if deemed significant, salvaged in a timely manner, as stipulated by Policy Resolution No. 27 of the Napa City Council.[62] All recovered fossils would be deposited in an appropriate repository, such as the University of California Museum of Paleontology, where they would be properly curated and made accessible for future

[61] Finger, Kenneth L. PhD. 2020. Paleontological Records Search: Zinfandel Subdivision Project. May 8.

[62] Napa City Council. 2002. Policy Resolution Number 27. December 3.

study.[63] As such, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Project-specific Implementation Measures

As detailed above, the proposed project would be required to implement IM GEO-1 to demonstrate compliance with Napa Policy Resolution No. 27 VI.5.

IM GEO-1 Design-level Geotechnical Report

Prior to construction activities, an updated design-level geotechnical study shall be prepared by a qualified Geotechnical Engineer. The recommendations included in the design-level geotechnical study shall be implemented during construction activities, including grading and excavation. Monitoring and testing by a geotechnical engineer during construction shall be conducted to ensure all design recommendations are implemented properly.

Conclusion

With regard to Geology and Soils, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

[63] Finger, Kenneth L. PhD. 2020. Paleontological Records Search: Zinfandel Subdivision Project. May 8.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.8 Greenhouse Gas Emissions *Would the project:*					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Not Applicable	No	No	No	No
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	Not Applicable	No	No	No	No

Methodology

Lead agencies have discretion to formulate their own significance thresholds (CEQA Guidelines § 15064.7(b)). The determination by a lead agency of whether a project may have significant effect on the environment calls for careful judgment, based, to the extent possible, on scientific and factual data (CEQA Guidelines § 15064(b)(1)). Thus, establishing a single threshold of significance, while desirable in most instances, may not be possible for every environmental impact because the significance of an impact may vary with the setting. While the Bay Area Air District recommends that its GHG thresholds be used to determine the significance of project emissions, the final determination of whether a project is significant is within the purview of the City, as Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines.

Appendix G to the CEQA Guidelines is a sample Initial Study Checklist that includes questions for determining whether impacts related to the emissions of GHGs are significant. These questions reflect the input of planning and environmental professionals at the California Governor's Office of Planning and Research (OPR) and the California Natural Resources Agency based on input from stakeholder groups and experts in various other governmental agencies, nonprofits, and leading environmental consulting firms. They also reflect the requirements of laws other than CEQA, such as AB 32 and AB 1279. As a result, many lead agencies derive their significance criteria from the questions posed in Appendix G. The City has chosen to do so for this proposed project. Therefore, the proposed project's GHG emissions would have a significant impact if the proposed project would:

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

In addition, CEQA Guidelines Section 15064.4(b) 2018 amendments for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- **Consideration No. 1**: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration No. 2**: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration No. 3**: The extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Accordingly, the proposed project is evaluated against the guidance in Appendix G GHG, taking into account Considerations 1 through 3 as described above.

A quantitative analysis was prepared for the proposed project to determine the extent to which it may increase or reduce GHG emissions as compared to the existing environmental setting to fulfill Consideration 1; however, this analysis was completed for informational purposes only.

Regarding Considerations 2 and 3, the City has elected to evaluate the proposed project based on qualitative assessments of compliance with the 2022 Scoping Plan (including Appendix D) to support GHG significance findings under Impacts GHG-1 and GHG-2.

The 2022 Scoping Plan reaffirms and clarifies the role of local governments in achieving the State's climate goals, particularly as it concerns the approval of new land use development projects and their environmental review under CEQA. It outlines three distinct approaches that lead agencies may consider for evaluating the consistency of proposed plans and residential and mixed-use development projects with the State's climate goals:

- The first approach involves consistency with a GHG reduction plan, such as a CEQA-qualified CAP.
- The second approach involves determining whether a project would result in net-zero GHG emissions.
- The third approach involves assessing a project's consistency with key project attributes that have been demonstrated to reduce operational GHG emissions while advancing fair housing.

In other words, the 2022 Scoping Plan considers these approaches to evaluate whether a project may have a less than significant impact on GHG emissions. An evaluation of a project's consistency with the Scoping Plan serves as a roadmap for evaluating the project's current design and determining whether it complies with current policies and planned reduction measures for GHG emissions.

a) Greenhouse Gas Emissions

Would the project: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the proposed project directly or indirectly generating GHG emissions.

Proposed Project Analysis and Conclusion

Both construction and operational activities have the potential to generate GHG emissions. The proposed project would generate GHG emissions during temporary (short-term) construction activities such as demolition and grading, running of construction equipment engines, movement of on-site heavy-duty construction vehicles, hauling of materials to and from the project site, asphalt paving, and construction worker, vendor, and haul truck motor vehicle trips.

Long-term operational GHG emissions most often result from project-generated vehicular traffic, on-site combustion of natural gas, operation of any landscaping equipment, off-site generation of electrical power over the life of the proposed project, the energy required to convey water to and wastewater from the project site, and the emissions associated with the hauling and disposal of solid waste from the project site.

Project Emissions for Information Purposes

As explained above in Thresholds of Significance Consideration 1, quantification of project GHG emissions is provided to show the increase in GHG emission compared to existing setting for informational purposes only.

Construction

The proposed project would emit GHG emissions during construction from the off-road equipment, worker vehicles, and any hauling that may occur. Total GHG emissions generated throughout construction were combined and are presented in Table 10.

While the proposed project is anticipated to be constructed in 18 to 36 months (as described in the Air Quality section), project construction was modeled to occur over an 18-month period (pursuant to worst-case, CalEEMod default assumptions).

Table 10: Construction GHG Emissions – Informational Purposes Only

Construction Phase and Year	MT CO_2e per year
Demolition (2025)	38.342
Site Preparation (2025)	24.759
Grading (2025)	126.853
Building Construction (2025)	34.717
Building Construction (2026)	332.578
Building Construction (2027)	13.629
Paving (2027)	14.843
Total Construction Emissions	**585.72**

Notes:
MT CO_2e = metric tons of carbon dioxide equivalent
Totals may not add up due to rounding.
Source: CalEEMod Output (Appendix B).

Operation

The proposed project would contribute to global climate change through direct and indirect emissions of GHG from mobile sources (e.g., passenger vehicles, trucks), energy (e.g., on-site natural gas consumption and purchased electricity), water use and wastewater generation, and solid waste generation. All modeling parameters utilized in the Air Quality analysis are also utilized for this GHG analysis, including but not limited to trip generation rates, trip distances, building sizes and operations, energy consumption, water consumption, and waste generation. Please refer to Appendix B for modeling results and detailed calculations.

Operational GHG emissions by source are shown in Table 11. Operation of the proposed project at buildout is estimated to result in an annual GHG emissions inventory of approximately 556.97 metric tons (MT) carbon dioxide equivalent (CO_2e) per year.

Table 11: Annual Operational GHG Emissions – Informational Purposes Only

Emission Source	Year 2024 Total Emissions (MT CO_2e per year)
Area	2.28
Energy	150.02
Mobile (Vehicles)	385.89
Waste	12.80
Water	5.68
Refrigerants	0.30
Total Annual Project Emissions	**556.97**

Note:
MT CO_2e = metric tons of carbon dioxide equivalent
Source: CalEEMod (Appendix B).

Project Impact

The following discussion evaluates if the proposed project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment by comparing the proposed project to the goals of the 2022 Scoping Plan, Executive Order (EO) B-30-15, SB 32, and AB 197.

EO B-30-15 added the mandated target of reducing GHG emissions to 40 percent below 1990 levels by 2030. The ARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by EO B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. SB 32 builds on AB 32 and keeps California on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to ARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 is intended to provide easier public access to air emissions data that are collected by ARB was posted in December 2016.

As discussed under the Regulatory Framework section, ARB updates the Scoping Plan at least every 5 years to create a regulatory framework to achieve these State-mandated GHG emissions reduction targets. Accordingly, the 2022 Scoping Plan outlines strategies across nearly all levels of California's government and economy and defines—at a granular level—the regulatory actions needed to reduce GHG emissions from all emission sectors to meet the targets. The 2022 Scoping Plan assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045.

GHGs in California are emitted from seven economic sectors: industry; transportation; residential; commercial; agriculture and forestry; electricity (imports); and electricity (in-State production). The

2022 Scoping Plan identifies strategies to reduce GHGs in each of the sectors, and across the board, electrification will play an important role. The 2022 Scoping Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California be zero-emission by 2035 and all other fleets will have transitioned to zero-emission as fully possible by 2045, which will reduce the percentage of fossil fuel combustion vehicles.

As it relates to the residential economic sector, the 2022 Scoping Plan requires (through the Building Energy Efficiencies Standards [Energy Code]) all-electric appliances beginning in 2026 (residential), contributing to 6 million heat pumps installed Statewide by 2030. In existing residential buildings, 100 percent of appliance sales are to be electric by 2035, and as appliances are replaced at end of life, by 2030 there will be 3 million all-electric and electric-ready homes—and by 2035, 7 million homes will be electric-ready. The proposed project would comply with the 2022 Energy Code, which requires single-family residential buildings to be "electric-ready." This includes requirements to be energy storage systems ready; heat pump space heater ready; and electric clothes dryer ready. Furthermore, all single-family residential buildings shall have a newly installed photovoltaic system meeting the minimum qualification requirements for electrical output. The proposed project would also comply with the latest CALGreen Code (2022)—including requirements that facilitate future installation and use of EV chargers for electric vehicles—along with energy conservation, indoor and outdoor water conservation, and green building standards.

Water conservation and efficiency measures in the residential building sector are intended to continue energy efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the proposed project would comply with the current CALGreen Code, which includes a variety of indoor and outdoor water conservation measures, including the reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance.

The proposed project would be served with electricity provided by PG&E. In 2023, PG&E obtained 32.8 percent of its electricity from eligible renewable energy sources while the remaining electricity was sourced from large hydroelectric (13.8 percent) and nuclear (53.49 percent).[64] PG&E's 2022 RPS reporting showed that while 38 percent of electricity sales are sourced from eligible renewable sources, the RPS requirements apply to a 3-year average of utility provider electricity sourcing to allow for fluctuations in market demand and supply availability. Nonetheless, the electricity provider is required to meet the State's objective of 60 percent renewables by 2030.[65] The RPS encompasses the GHG emission reductions needed from the electricity sectors (both in-State and imports).

[64] California Energy Commission (CEC). 2022. Power Content Label. Website: https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure-program/power-content-label. Accessed May 7, 2025.

[65] California Public Utilities Commission (CPUC). 2024. Renewables Portfolio Standard Program. Website:

The goal of transportation and motor vehicle measures in the 2022 Scoping Plan is to develop regional GHG emissions reduction targets for passenger vehicles and reduce overall emissions from vehicles and fuels. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The Advanced Clean Cars II (ACC II) will reduce GHG emissions from new cars and is designed to phase to 100 percent new vehicle ZEVs and clean plug-in hybrid-electric vehicles (PHEVs) in California by 2035. The Low Carbon Fuel Standard will increase the availability and use of low carbon fuels, including renewable diesel, biodiesel, and renewable and natural gas, by mandating that the fuel carbon intensity in California must achieve a 20 percent reduction by 2030. Vehicles traveling to the proposed project site would comply with ACC II and the Low Carbon Fuel Standard. In addition, the proposed project includes the construction of a new sidewalk on El Centro Avenue and a multi-purpose trail, both designed to promote non-vehicular use and reduce VMT. The proposed project would also include wiring and conduits capable of supporting electric vehicle charging consistent with CALGreen Tier 2 EV requirements. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures in the 2022 Scoping Plan.

Measures in the 2022 Scoping Plan targeted at the industrial, commercial, and agriculture and forestry sectors are not applicable to the proposed project and are therefore not discussed.

The proposed project would implement the applicable residential building electricity and transportation measures as defined in the 2022 Scoping Plan to keep the State on the path to meeting mandated GHG reduction targets. Therefore, the proposed project would comply with existing State regulations adopted to achieve the overall GHG emissions reduction goals identified in EO B-30-15, SB 32, and AB 197 and would be consistent with (and would not conflict with) all applicable plans and programs designed to reduce GHG emissions. Accordingly, the proposed project would contribute its portion of what the State deems necessary to achieve California's long-term climate goals, and the proposed project would not result in a cumulatively considerable impact to global climate change. This impact would be less than significant Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Greenhouse Gases Emissions Reduction Plan Conflict

Would the project: Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the project conflicting with any plan, policy, or regulation adopted to reduce GHG emissions.

https://www.cpuc.ca.gov/rps/. Accessed May 7, 2025.

Proposed Project Analysis and Conclusion

The following discusses project consistency with applicable plans adopted for the purpose of reducing GHG emissions, which include ARB's 2022 Scoping Plan, Metropolitan Transportation Commission (MTC)/ABAG Plan Bay Area 2050, and City of Napa's Sustainability Plan.

2022 Scoping Plan Update

The principal State plan and policy for GHG emission reduction targets are set forth in EO S-03-05, AB 32, and the subsequent SB 32. The quantitative goal of AB 32 was to reduce GHG emissions to 1990 levels by 2020. AB 32 required the ARB to develop a Scoping Plan that described California's approach to reduce GHGs to achieve the 2020 emission target. This target was ultimately achieved 4 years earlier than mandated. SB 32 then accelerated the GHG emission reduction goals of AB 32. The 2022 Scoping Plan, the most recent update to the ARB Scoping Plan, reflects the 2030 target of a 40 percent reduction below 1990 levels as set by EO B-30-15 and codified by SB 32. It is applicable to State agencies but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the City to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the State agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level, for example, through Statewide building codes. As a result, local jurisdictions benefit from reductions in transportation emissions, increases in water efficiency in the building and landscape codes, and other Statewide actions that affect a local jurisdiction's emissions inventory from the top down.

The 2022 Scoping Plan provides guidance for evaluating a project's consistency with the State's goals for CEQA GHG analyses of residential projects. According to the 2022 Scoping Plan, residential projects that incorporate all of the project attributes shown in Table 12 will be considered consistency with the Scoping Plan and, therefore, may result in less than significant GHG impacts under CEQA.

Table 13 provides an analysis of the proposed project's consistency with the relevant 2022 Scoping Plan measures. Measures that are not directly applicable to the proposed project are not shown.

Table 12: Residential and Mixed-use Project Attributes that Reduce GHGs

2022 Scoping Plan GHG Reduction Measure	Project Consistency
Transportation Electrification: Provides electric vehicle (EV) charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval.	**Consistent.** The proposed project would meet the voluntary standard in the California Green Building Standards for EV charging infrastructure at the time of project approval.
VMT Reduction 1: Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and	**Consistent.** The proposed project would begin construction prior to 2026 (construction is estimated to begin in 2025) and would be required to comply with the 2022 Energy Code, which requires single-family residential buildings to be "electric-ready." This

2022 Scoping Plan GHG Reduction Measure	Project Consistency
essential public services (e.g., transit, streets, water, sewer).	includes requirements to be energy storage systems ready; heat pump space heater ready; and electric clothes dryer ready.
VMT Reduction 2: Does not result in the loss or conversion of natural and working lands.	**Not applicable.** The proposed project entails new residential construction (not existing). However, the proposed project would be "electric-ready" and will be ready to accommodate all-electric appliances.
VMT Reduction 3: Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre) OR is in proximity to existing transit stops (within a half mile) OR satisfies more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS).	**Consistent.** The proposed project construction will begin in 2025, which is prior to the year 2030 when any fleet electrification requirements will begin.
VMT Reduction 4: Reduces parking requirements by: eliminating parking requirements or including maximum parking ratios (i.e., the ratio of parking spaces to residential units or square feet); OR providing residential parking supply at a ratio of less than one parking space per dwelling unit; OR for multi-family residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	**Consistent.** The proposed project consists of single-family homes that would have garage and driveway parking spaces; however, the parking is not required.
VMT Reduction 5: At least 20 percent of units included are affordable to lower-income residents.	**Consistent.** The proposed project would include 12 accessory dwelling units (ADUs). ADUs are an affordable housing option.[66]
VMT Reduction 6: Results in no net loss of existing affordable units.	**Consistent.** The proposed project would not demolish or remove any affordable housing units.
Building Decarbonization: uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking.	**Consistent.** The proposed project would begin construction prior to 2026 (construction is estimated to begin in 2025) and would be required to comply with the 2022 Energy Code, which requires single-family residential buildings to be "electric-ready." This includes requirements to be energy storage systems ready; heat pump space heater ready; and electric clothes dryer ready.
Source of ARB 2022 Scoping Plan Appendix D, Local Actions: California Air Resource Board (ARB). 2022. 2022 Scoping Plan for Achieving Carbon Neutrality, Appendix D. December. Website: https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp-appendix-d-local-actions_0.pdf. Accessed May 7, 2025.	

[66] Habitat for Humanity. Affordable Accessory Dwelling Units: Innovative Housing Solutions for Households with Low Incomes and Older Adults. Website: https://www.habitat.org/sites/default/files/documents/ADU-Evidence-Brief_Habitat-AARP.pdf. Accessed on: May 7, 2025.

As shown in Table 13, implementation of the proposed project would not conflict with the reduction measures proposed in the 2022 Scoping Plan.

Metropolitan Transportation Commission Plan Bay Area

As part of the implementing framework for Plan Bay Area 2050, local governments have identified planned development areas to focus growth. The proposed project site is within the planning area of the City of Napa's 2020 General Plan and is consistent with applicable land use designations. Thus, the proposed project would be consistent with the overall goals of Plan Bay Area, which include reducing VMT and concentrating new investment in infill areas with existing urban and transportation infrastructure. Additionally, the proposed project includes construction of a sidewalk on El Centro Avenue and a multiuse trail that would promote non-vehicular modes of travel. Given these considerations, the proposed project would not conflict with the land use and transportation concept plan in Plan Bay Area 2050.

City of Napa Sustainability Plan

The City of Napa has not adopted a Climate Action Plan (CAP). In 2012, the City adopted its first Sustainability Plan. The Sustainability Plan represents the City's attempt at compiling a list of voluntary actions that the City may encourage or advance in order to promote sustainability throughout the City. These actions fall into categories such as energy, transportation, water, recycling and waste reduction, planning and land use, local food, natural and built environment, local business and economy, and community connectedness. The Sustainability Plan has no applicability to private land use development projects such as the proposed project, but it does identify various City of Napa General Plan measures that the City considers to be relevant to sustainability and, therefore, climate change. These General Plan measures also have limited applicability to the proposed project, but they generally entail promoting wastewater conservation, green building practices, and energy efficiency. The proposed project would be built in accordance with the latest Title 24 Energy Efficiency and CALGreen standards, and it would include solar photovoltaic systems. Title 24 and CALGreen standards also would ensure that the proposed project is built to the State's latest water conservation and efficiency standards. As stated, the Sustainability Plan has no applicability to private land use development projects; however, it does identify City of Napa General Plan measures relevant to sustainability that have limited applicability to the proposed project. Those include promoting wastewater conservation, green building practices, and energy efficiency. As the proposed project would be built to applicable Title 24 Energy Efficiency and CALGreen standards, which promote reduced energy consumption, reduced water consumption, and green building practices, the proposed project would be consistent with the City's Sustainability Plan.

Summary

The proposed project is consistent with the ARB's Scoping Plan, MTC/ABAG's Plan Bay Area 2050, and the City of Napa's Sustainability Plan. Therefore, the proposed project does not conflict with any plans to reduce GHG emissions and the impact would be less than significant. The proposed project does not have any project-specific significant effects which are peculiar to the project or its site. It

would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to GHG emissions, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.9 Hazards and Hazardous Materials *Would the project:*					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than significant impact	No	No	No	No
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	No	No	No	No
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Not Applicable	No	No	No	No
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?	Not Applicable	No	No	No	No
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two	Less than significant impact	No	No	No	No

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?					
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less than significant impact	No	No	No	No
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	No	No	No	No

a) Routine Transport, Use, or Disposal of Hazardous Materials

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

Summary of 2020 General Plan FEIR

The Prior FEIR outlined existing conditions on the transportation, use, and disposal of hazardous materials throughout the City at the time the 2020 General Plan was prepared. Transportation of hazardous materials within the City occurs primary along SR-12, SR-29, SR-121, SR-128, and SR-221, and the City does not contain any off-site treatment or disposal sites for hazardous wastes. Approximately 1,000 companies in the City contain Hazardous Materials Management Plans (HMMPs), which are required for companies storing hazardous materials above established threshold quantities in the County. The Prior FEIR designates that the 2020 General Plan would permit industrial and commercial uses that may utilize, store, and dispose of hazardous materials within the RUL. However, the Prior FEIR indicates that development associated with the implementation of the 2020 General Plan would not create a significant hazard to the public as new developments that store and dispose of significant amounts of hazardous waste would be required to contain HMMPs, which are reviewed and monitored by the Napa County Department of Environmental Management.

Furthermore, the City adopted a Source Reduction and Recycling Element (SRRE) with a separate Household Hazardous Waste Element (HHWE) that establishes goals to reduce household hazardous waste storage within homes for future disposal. In addition, Chapter 8, Health and Safety, of the 2020 General Plan contains policies that would reduce hazardous materials exposure to the public, including reevaluating the short-term goals of the City's HHWE and requiring the City to analyze whether industrial developments are designed to minimize hazardous materials generation. Therefore, the Prior FEIR concluded that the implementation of the 2020 General Plan would not pose a significant hazard to the public within the RUL or adjacent areas, including on the routine transport, use, and disposal of hazardous materials.[67]

Proposed Project Analysis and Conclusion

Small quantities of hazardous materials could be used during construction and landscaping activities during project development, including materials such as oil, gas, paint, etc., during construction, as well as small quantities of cleaning and maintenance chemicals for household use; however, no other hazardous chemicals would be used or stored on-site. These small quantities of construction, cleaning, and maintenance materials would not pose a threat to the environment, adjacent land uses, or public health.

Demolition materials from existing structures that could contain asbestos or lead-based paint, as well as electrical transformers containing polychlorinated biphenyl (PCBs), would be disposed of in accordance with California Department of Toxic Substances Control (DTSC) and the California Occupational Safety and Health Administration (Cal/OSHA) regulations pertaining to the disposal of such hazardous materials. Therefore, construction of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Impacts would be less than significant. Operation of the proposed project would not require the routine transport, use, or disposal of hazardous materials. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Risk of Upset

Would the project: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Summary of 2020 General Plan FEIR

The Prior FEIR identified areas within the County that previously stored or currently store hazardous materials, such as approximately 100 sites containing a total of 200 to 250 leaking or contaminated underground storage tanks (USTs), some former tannery sites underlain by contaminated soils from

[67] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.12-3. December 1.

the previous discharge of pollutants, and gasoline plants and stations situated along the Napa River. In addition, the Prior FEIR acknowledged reasonably foreseeable upset and accident conditions from the results of hazardous materials transport within the City, such as the release of toxic emissions and pollution, traffic disruption, and fires. However, the Prior FEIR identified policies within the 2020 General Plan that include the maintenance of emergency response plans, identification of evacuation routes, and citywide rehearsal of procedures, which would maintain and improve hazardous materials incident response. Furthermore, the Prior FEIR indicated that the Napa County Department of Environmental Management would review HMMPs from facilities that store hazardous materials where those facilities identified with high quantities of hazardous materials would be required to submit Risk Management Prevention Plans (RMPPs) assessing the risks of chemical release. Development would also be required to implement mitigation plans to minimize the risk of release to the surrounding community. As such, the Prior FEIR determined that development associated with the 2020 General Plan would comply with policies and implementation programs that would reduce hazardous materials impacts to those within the RUL and surrounding area, including those associated with upset and accident conditions. Therefore, the Prior FEIR concluded that impacts would be less than significant.[68]

Proposed Project Analysis and Conclusion

According to the Phase I Environmental Site Assessment (Phase I ESA), the project site currently contains two approximately 500-gallon aboveground fuel storage tanks used to store gasoline and diesel (Appendix E). These tanks are in good condition and housed in sturdy secondary containment structures. Small quantities of vineyard management and equipment maintenance chemicals and small amounts of household cleaners stored in the equipment storage building or agricultural chemical storage building were also observed. As such, the Phase I ESA identified the vicinity where the diesel and gasoline aboveground storage tanks were stored and dispensed as a potential environmental condition on the project site. The Phase I ESA determined that there is the potential that fuels may have spilled onto the soil in this area, but the presence of aboveground storage tanks and use of pesticides are very common in winery properties. Therefore, the likelihood of an enforcement action is small, even if a release occurred.

Furthermore, CKG Environmental Inc.'s (CKG's) Soil Trench Observations describe additional analysis performed to determine the potential impacts of the aboveground storage tanks identified in the Phase I ESA. CKG excavated a series of trenches in the soil adjacent to the present fuel storage tanks and an area where tanks had been located historically on January 11, 2018. CKG concluded that there was no indication of a significant release of petroleum hydrocarbons at the known locations of the present or historical aboveground storage tanks. Therefore, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

[68] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.12-1 – 3.12-3. December 1.

c) Exposure of Schools to Hazardous Materials or Emissions

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

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address exposure of schools to hazardous materials or emissions. However, the Prior FEIR identified policies and implementation programs within the 2020 General Plan that would reduce hazardous materials impacts, such as Policy LU-7.4, which would require the City to ensure that industrial developments are designed to minimize hazardous materials generation. In addition, the 2020 General Plan would permit commercial and industrial uses that store, use, and dispose of hazardous materials above threshold quantities within the County and would require those facilities to develop HMMPs as reviewed and monitored by the Napa County Department of Environmental Management, as well as develop RMPPs which would assess and minimize the risks of hazardous materials release to the surrounding community.[69] As such, the Prior FEIR concluded that developments associated with implementation of the 2020 General Plan would not generate hazardous materials and waste impacts to the RUL or surrounding environment, which can include those associated with hazardous materials impacts within 0.25 mile of an existing or proposed school.

Proposed Project Analysis and Conclusion

The nearest school to the project site is Willow Elementary School, approximately 715 feet northeast of the project site, within 0.25 mile of the project site. Justin-Siena High School is approximately 0.48 miles west of the project site, and Unidos Middle School is approximately 0.55 miles northwest of the project site.

As described above, the operation of the proposed project would not involve the routine use, transport, or disposal of hazardous or acutely hazardous materials; any fuels, lubricants, or other potentially hazardous materials used during construction would be handled carefully in compliance with all applicable laws and regulations and would have little to no chance of affecting the school. Therefore, despite Willow Elementary School being located less than 0.25 mile from the project site, it is unlikely that the school would be affected by the use of routine chemical substances or hazardous waste on the project site. Proper handling and disposal of all hazardous chemicals during operation, as well as any asbestos-containing materials or lead-based paint, would be disposed of in compliance with all applicable federal, State, and local regulations. Therefore, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

[69] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.12-1 – Page 3.12-3. December 1.

d) Hazardous Materials Sites

Would the project: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address impacts pertaining to being located on hazardous materials sites. However, the General Plan FEIR mentioned that the Napa County Department of Environmental Management implements an underground storage tank program. The Prior FEIR further identified approximately 100 sites within the County that have contained leaking or contaminated USTs and some former tannery sites underlain by contaminated soils. Furthermore, the Prior FEIR identified gasoline plants and stations along the Napa River that contain USTs storing petroleum products. As previously mentioned, the Napa County Department of Environmental Management requires facilities that store hazardous materials above the County's threshold to contain HMMPs, which are regularly reviewed and monitored by the agency. The Prior FEIR determined that the Department of Environmental Management would generate a ranking system to list facilities that generate hazardous materials on potential hazards and would therefore list the location of these facility sites.[70] As such, the Prior FEIR indicated that the 2020 General Plan references information that can pertain to hazardous material sites lists.

Proposed Project Analysis and Conclusion

The project site at 1687 El Centro Avenue was developed with the existing residence, agricultural equipment storage building, and a livestock shelter from at least 1942 until the present. Most of the project site has historically been used for pasture, except for the section south of Salvador Channel and section bordering 1687 El Centro Avenue which were planted with orchards. By 1973, some vineyards had been planted on the project site, and by 1982, all the land was planted with vineyards. The project site is not on the Cortese List.[71] Therefore, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

[70] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.12-1 – Page 3.12-3. December 1.

[71] Department of Toxic Substances Control. 2022. EnviroStor. Website: https://www.envirostor.dtsc.ca.gov/public/map/?global_id=38330005. Accessed May 7, 2025.

e) Airports

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

Summary of 2020 General Plan FEIR

The Prior FEIR identified the Napa County Airport Land Use Compatibility Plan (ALUCP) planning area to encompass most of the Stanly Ranch Planning Area and the southern portion of the River East Planning Area. The purpose of the ALUCP is to address land use measures to minimize public exposure to safety and noise hazards around airports. As such, the Prior FEIR determined that Policy HS-6.1 within the 2020 General Plan would require any development implemented within the ALUCP planning area to be reviewed by the Airport Land Use Commission (ALUC), which would restrict certain development and impose safety standards to ensure consistency with the ALUCP. Therefore, the Prior FEIR concluded that the 2020 General Plan would be consistent with the environmental policies of the ALUCP and would not result in future development that exposes people to safety hazards or excessive noise.[72] Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

The closest public airport to the project site is the Napa County Airport, located approximately 8.23 miles to the south. The project site does not fall within the Airport Influence Area of the Napa County Airport or any other airport.[73] Given the distance of the project site from local airports and applicable air traffic and safety regulations, no impacts would occur with respect to aviation safety hazards. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

f) Emergency Response and Evacuation

Would the project: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Summary of 2020 General Plan FEIR

The Prior FEIR identified policies in the 2020 General Plan within Chapter 8, Health and Safety, that are intended to maintain and enhance emergency preparedness and response, including the prolongation of emergency response plans, identification of evacuation routes, and rehearsal of those procedures established in the Disaster Management Plan. As such, the Prior FEIR explained policies

[72] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.2-9. December 1.

[73] Napa County Airport Land Use Commission (ALUCP). 1999. Napa County Airport Land Use Compatibility Plan. Website: https://www.countyofnapa.org/DocumentCenter/View/1980/Airport-Land-Use-Compatibility-Plan-PDF. Accessed May 7, 2025.

established in the 2020 General Plan where future development would not impair or interfere with emergency response or evacuation plans. Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

The proposed project would not alter or obstruct adjacent roadways. Temporary lane restrictions along El Centro Avenue may be required during construction. All such restrictions would require approval by the police and fire departments and would be temporary. As such, implementation of the proposed project would not be expected to impair the function of emergency evacuation routes. Napa County Office of Emergency Services (OES) coordinates emergency preparedness plans throughout the County, including the City of Napa. Development of the project site under the proposed project would not physically interfere with an adopted emergency response or evacuation plan. Lane restrictions during construction would consist of cones or temporary barricades that could easily be removed if evacuation of the area were required. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

g) Wildland Fires

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

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that development associated with the 2020 General Plan could increase wildland fire hazards through development along hillsides within the wildland urban interface where the presence of dense vegetation patterns provides fuel for wildland fires. However, the Prior FEIR determined that the 2020 General Plan reflects measures, which are also included in Policy Resolution No. 27, on reducing wildland fire impacts to future developments, such as requiring fuel breaks and defensible space practices around structures and providing on-site water supply. As such, the Prior FEIR concluded that the 2020 General Plan would mitigate wildland fire impacts for future developments.[74] Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

As discussed in Section 2.19, Wildfire, the project site is not located within a very high fire hazard zone.[75] In addition, the project site is located on a relatively flat site within an urbanized and residential area of the City. The project site is located in an area that is mostly surrounded by other residential development, which reduces wildfire risks. The proposed project is required to design

[74] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 4-8. December 1.

[75] California Department of Forestry and Fire Protection (CAL FIRE). 2022. Fire Hazard Severity Zone (FHSZ) Viewer. Website: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/?print_preview=true. Accessed May 7, 2025.

and construct internal access and to size and site fire suppression facilities (e.g., hydrants and sprinklers) to conform to the local, State, and federal regulations, further reducing the risk of wildfires. Therefore, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Hazards and Hazardous Materials, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.10 Hydrology and Water Quality *Would the project:*					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less than significant impact	No	No	No	No
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	No	No	No	No
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:					
(i) result in substantial erosion or siltation on- or off-site;	Less than significant impact	No	No	No	No
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	Less than significant impact	No	No	No	No
(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	No	No	No	No

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
(iv) impede or redirect flood flows?	Less than significant impact	No	No	No	No
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Less than significant impact	No	No	No	No
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than significant impact	No	No	No	No

a) Water Quality

Would the project: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Summary of 2020 General Plan FEIR

The Prior FEIR provided existing water quality conditions in the Napa River at the time the 2020 General Plan was prepared, indicating that water quality objectives are mostly satisfied for the Napa River and Napa Valley's groundwater. However, the Prior FEIR identified that the groundwater contained high levels of sodium, boron, chloride, and iron. The Prior FEIR determined that development associated with the 2020 General Plan would result in minimal stormwater runoff and pollutant loading as most of the land in the RUL is already urbanized. Nevertheless, the Prior FEIR identified policies within the 2020 General Plan intended to reduce impacts related to water quality, such as Policy CS-11.5, through which the City plans to create stormwater management programs to reduce pollution discharges that would be consistent with the RWQCB Basin Plan. Furthermore, the 2020 General Plan requires new developments to obtain NPDES permits and to implement site-specific BMPs into their stormwater systems, and the City's Policy Resolution No. 27 supports these policies by requiring construction activities to minimize surface and groundwater pollution, to properly store construction materials to prevent water pollution, and to obtain permits from the RWQCB. As such, the Prior FEIR concluded that potential pollutant loading would be less than significant with implementation of the 2020 General Plan.[76]

[76] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.9-1 – 3.9-4. December 1.

Proposed Project Analysis and Conclusion

The proposed project would include a total of 199,285 square feet of new and replaced impervious surface area at the project site (including El Centro Avenue half street frontage and Lassen Street frontage). The use of construction equipment at the project site could expose soil to erosion, which could result in potential pollutants being released into the environment. Runoff from graded areas could carry eroded soils and pollutants into the storm drainage systems and into Salvador Channel, eventually carrying these eroded soils and pollutants into the Napa River and then the San Pablo Bay, increasing sedimentation, degrading downstream water quality, and potentially affecting the groundwater table. This would represent a potentially significant construction impact related to surface and groundwater quality.

As the proposed project would disturb 1 acre or more of land, it would be subject to the State Water Board NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit) (Order WQ 2022-0057-DWQ, NPDES No. CAS000002). Permittees under the NPDES General Permit are required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include a site map, describe construction activities and potential pollutants, and identify site-specific BMPs that would be implemented to reduce and prevent soil erosion and discharge of other construction-related pollutants (i.e., petroleum products, solvents, paints, and cement) that could contaminate nearby water resources (i.e., the Napa River). The SWPPP also requires the description of a spill and leak prevention and response plan to address hazardous and nonhazardous spills in accordance with federal, State, and local laws. NPDES permittees are subject to inspection, monitoring, and reporting requirements.

Additionally, projects within the City must comply with the NPDES General Permit for Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (MS4 Permit),[77] which is enforced through the Napa Countywide Stormwater Pollution Prevention Program (NCSPPP).

In compliance with the MS4 Permit, a Stormwater Control Plan was prepared by RSA+ on September 15, 2023, for the proposed project (Appendix F). As discussed in the Stormwater Control Plan, four bioretention facilities would be constructed to retain and treat stormwater prior to discharge from the project site. Runoff would be conveyed to the bioretention facilities from roof downspouts and surface flows from the street. Once in the bioretention facilities, runoff would be treated via infiltration together with the pollutant retention capabilities of the landscaping. The bioretention facilities would be designed to trap trash particles that are 5 millimeters and greater for the peak flow rate generated by the 1-year, 1-hour storm event; this feature allows the bioretention facilities to also function as Multi-benefit Trash Treatment Systems, in accordance with State Water Board standards. Adherence to the NPDES General Permit, the MS4 Permit, and the Stormwater Control Plan would reduce the potential

[77] Order WQ 2013-0001-DWQ, NPDES No. CAS000004 (As amended by Order WQ 2015-0133-EXEC, Order WQ 2016-0069-EXEC, Order WQ 2017-XXXX-DWQ, Order WQ 2018-0001-EXEC, and Order WQ 2018-0007-EXEC). Effective January 1, 2019.

for construction activities to introduce pollutants into the nearby waterways. The construction-related impact to surface water and groundwater quality would be less than significant.

The permit also requires post-construction permanent BMPs, in the form of Site Design and LID Runoff requirements, which would remain in service to protect water quality throughout the life of the proposed project. The bioretention facilities described above (and in Appendix F) have been designed to comply with the MS4 Permit and would be in place during operation of the proposed project. Adherence to the NPDES General Permit, the MS4 Permit, and the Stormwater Control Plan would reduce the potential for operational activities to introduce pollutants into the nearby waterways. The potential operational impacts to surface water and groundwater quality would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Groundwater

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

Summary of 2020 General Plan FEIR

The Prior FEIR determined that future development associated with implementation of the 2020 General Plan would not interfere with groundwater recharge as undeveloped land in the RUL accounts for approximately 1.62 square miles of the watershed's 426 square miles. As such, the Prior FEIR determined that future developments on undeveloped land that introduce impervious surfaces would have a nominal impact on groundwater recharge within the basin. Therefore, the Prior FEIR concluded that development projects from the implementation of the 2020 General Plan would not interfere with groundwater supplies and impacts would be less than significant.[78]

Proposed Project Analysis and Conclusion

Impacts related to groundwater supply and groundwater recharge are limited only to operational impacts, and no construction-related impacts would occur.

The proposed project would increase impervious surfaces by approximately 173,088 square feet, for a total of approximately 199,285 square feet of new and replaced impervious surface area at the project site. This would reduce the project site's capacity for groundwater recharge; however, because of the proposed increase in impervious surface at the project site, a Stormwater Control Plan was prepared (Appendix F). As discussed above, runoff from the project site would be conveyed to bioretention facilities from roof downspouts and surface flows from the street. Once in the bioretention basin, runoff would be retained and allowed to percolate to support recharge of groundwater.

[78] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.9-1 – 3.9-4. December 1.

As discussed further in Section 4.18, Utilities and Service Systems, the City relies on a combination of local surface water, a small amount of recycled water, and imported water from the North Bay Aqueduct system, which sources water primarily from the Sacramento River, to meet its water needs, and, as such, the City does not rely upon groundwater to meet its municipal water needs. The 2020 Urban Water Management Plan (UWMP) describes the City's plans to meet full service demands under all foreseeable hydrologic conditions, meeting a single dry year and multiple dry year eligibility. The UWMP includes the City's Water Shortage Contingency Plan, which contains demand reduction measures that can be used in the event that water supplies fall below the City's existing demand. For example, measures could include limiting landscape irrigation to specific days, requiring automatic shutoff hoses, and restricting water use for decorative water features like fountains. City demands are projected to be met with local surface water, imported water, and recycled water supplies with available State Water Project (SWP) surplus supplies.[79] As such, the proposed project's water demand would be accommodated in multiple dry-year scenarios.

As the development associated with the proposed project would not substantially deplete groundwater supplies, nor would it interfere with groundwater recharge, the impact would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Drainage

Would the project: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on- or off-site;

Summary of 2020 General Plan FEIR

The Prior FEIR identified natural drainageways within the RUL, such as Napa River, Napa Creek, Browns Valley Creek, and Redwood Creek. As previously mentioned, the Prior FEIR determined that implementation of the 2020 General Plan would result in minimal alterations to existing drainage patterns as the RUL is highly urbanized with many areas already covered with impervious surfaces. However, the Prior FEIR ascertained that the 2020 General Plan contains policies and implementation programs addressing alterations to existing drainage patterns from erosion or siltation, including Policies CS-11.6, which requires new developments to obtain an NPDES permit, and CS-11.7, which requires new developments to implement BMPs in the design of stormwater systems. In addition, new developments would be required to adhere to Policy Resolution No. 27, which mandates construction activities to be implemented in a manner that minimizes pollutants. Therefore, the Prior FEIR concluded that the 2020 General Plan contains policies and implementation

[79] City of Napa. 2022. 2020 Urban Water Management Plan. Final Report. January 2022.

programs that would not substantially alter the existing drainage patterns and impacts would be less than significant.[80]

Proposed Project Analysis and Conclusion

The proposed project would have a significant impact if it were to substantially alter the existing drainage pattern of the project site in a manner that would result in substantial erosion or siltation. Such drainage effects could occur from grade changes at the site, exposure of soils for periods of time during precipitation events, alterations to creek beds, or increased on-site impervious areas. These types of changes could have a potentially significant impact on project site drainage patterns.

There is a possibility that construction activity could result in substantial erosion or siltation and could therefore result in drainage alterations and stormwater quality issues. However, as discussed above, the proposed project would be required to adhere to the San Francisco Bay RWQCB Municipal Regional Permit (MRP) and NPDES General Permit, which would include implementation a SWPPP and associated BMPs (including implementing sediment and erosion control plans, slope stabilization [to minimize exposed soil], and managing construction material and waste on-site by keeping storm drain systems clear) designed to ensure that erosion and siltation are prevented or minimized to the maximum extent feasible during construction.

Adherence to the NPDES General Permit and MS4 Permit would reduce the potential for construction activities to increase the rate and amount of erosion, siltation, and runoff. The impact would be less than significant.

As discussed above, the proposed project would include a total of 199,285 square feet of new and replaced impervious surface area at the project site (including El Centro Avenue half street frontage and Lassen Street frontage). The addition of impervious surface area could increase the rate of erosion and siltation and surface runoff at the project site. This would represent a potentially significant impact if the increase in impervious surface at the project site resulted in an increase in erosion and siltation at the project site during the operation of the proposed project. The natural drainage at the project site consists of sheet flow over the ground surface that concentrates in manufactured surface drainage elements (i.e., ditches, gutters, and on-site storm drain). The LID design features provided in the Stormwater Control Plan include preserving the natural drain features. As discussed above, the proposed project would include the addition of bioretention areas at the project site, which would be operational post-construction phase. These bioretention areas are designed to control the amount and rate of runoff at the project site by directing runoff into the bioretention areas. The inclusion of these on-site bioretention areas would ensure that the pre-development drainage patterns at the project site are not altered in such a way that the proposed project would result in increased erosion, siltation, and/or runoff. The impact would be less than significant. Therefore, the proposed project does not have any project-specific significant effects

[80] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.9-1 – 3.9-4. December 1.

which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

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

Summary of 2020 General Plan FEIR

As previously mentioned, the Prior FEIR indicated that the increase in impervious surfaces from future development associated with the implementation of the 2020 General Plan would result in minimal surface runoff due to the RUL already being highly urbanized and would be less than significant. Regardless, the Prior FEIR identified policies and implementation programs in the 2020 General Plan intended to reduce surface runoff, such as Policy CS-11.4, which calls for investigating the potential for impact fee collection from new developments to accommodate the effects of additional surface runoff. In addition, Policy Resolution No. 27 would require new projects that introduce impervious surfaces potentially changing the amount of surface runoff to submit a drainage and grading plan. As such, the Prior FEIR concluded that impacts related to surface runoff from the implementation of the 2020 General Plan would be less than significant.[81]

Proposed Project Analysis and Conclusion

The proposed project would have a significant impact if it were to substantially alter the existing drainage pattern of the project site in a manner that would result in an increase in surface runoff, leading to flooding on- or off-site. Such drainage effects could occur from grade changes at the site, exposure of soils for periods of time during precipitation events, alterations to creek beds, or increased on-site impervious areas.

The proposed project would include a total of 199,285 square feet of new and replaced impervious surface area at the project site (including El Centro Avenue half street frontage and Lassen Street frontage). The addition of impervious surface area could increase the rate and amount of surface runoff and flooding at the project site. According to the Flood Insurance Rate Map (FIRM), published by FEMA, the project site is within the 100- and 500-year floodplain.[82]

The Stormwater Control Plan (Appendix F) includes flood management design features included as part of the proposed project to reduce the potential flood hazard. The Hydraulic Analysis (Appendix G) prepared for the proposed project concluded that these design features would successfully reduce potential flood risks at the project site. These design features involve elevating portions of the project site above the 100-year flood elevation. The addition of bioretention areas at the project site is also included as part of the proposed project to ensure that the proposed post-development flow discharge from the project site would not exceed pre-developed levels. The addition of these proposed project

[81] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.9-1 – 3.9-4. December 1.

[82] Federal Emergency Management Agency (FEMA). 2010. FEMA Flood Insurance Rate Map. Map No. 06055C0504F. Panel 500 of 650. National Flood Insurance Program. Map. Scale. 1:6,000.

design features would reduce the amount of surface runoff from the project site and, therefore, reduce the risk of flooding as a result of the proposed project.

Furthermore, the Review of the Hydraulic Analysis (Appendix F) shows that the hydraulic modeling approach was carefully prepared and addresses the potential impacts and mitigation of flood events. Therefore, the proposed improvements included as part of the proposed project would be sufficient to address the potential for flooding and ensure that homes and structures would be protected. The impact would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

(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;

Summary of 2020 General Plan FEIR

The Prior FEIR determined that development associated with the implementation of the 2020 General Plan would result in a less than significant amount of water runoff volumes and pollutant loading. Nonetheless, the Prior FEIR outlined policies and implementation programs intended to reduce the impacts of new developments on stormwater drainage systems, such as Policy CS-11.2 and Policy CS-11.4, requiring the collection of Stormwater System Service fees to maintain and improve the existing storm drainage system and looking into the potential for impact fee collection to accommodate for additional runoff generated from new developments. Furthermore, Policy CS-11.5 emphasizes that the City intends to develop stormwater management programs to reduce waterborne pollution discharges. As such, the Prior FEIR identified policies and implementation programs within the 2020 General Plan intended to minimize water and pollution runoff in proposed or existing stormwater drainage systems. Therefore, the Prior FEIR concluded that impacts related to existing or planned stormwater drainage systems would be less than significant.[83]

Proposed Project Analysis and Conclusion

The proposed project would have a significant impact if it were to substantially alter the existing drainage pattern of the project site in a manner that would result in substantial runoff, resulting in the exceedance of the existing stormwater drainage system or additional sources of polluted runoff. Such drainage effects could occur from grade changes at the site, exposure of soils for periods of time during precipitation events, alterations to creek beds, or increased on-site impervious areas.

As discussed above, the proposed project would include a total of 199,285 square feet of new and replaced impervious surface area at the project site (including El Centro Avenue half street frontage and Lassen Street frontage). The addition of impervious surface area could increase the rate and amount of surface runoff at the project site.

[83] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.9-1 – 3.9-4. December 1.

The LID design features provided in the Stormwater Control Plan include preserving the natural drain features. As discussed above, the proposed project would include the addition of bioretention areas at the project site, which would be operational post-construction phase. These bioretention areas are designed to control the amount and rate of runoff at the project site by directing runoff into the bioretention areas. The inclusion of these on-site bioretention areas would ensure that the pre-development drainage patterns at the project site are not altered in such a way that the proposed project would result in increased runoff. The storm drain system of the proposed project would be designed such that the proposed post-development flow discharge from the project site would not exceed pre-developed levels in accordance with the City Drainage Standards. The proposed project would satisfy the City Drainage Design Standard Section 2.10.02. The impact would be less than significant.

Additionally, as discussed above, adherence to the NPDES General Permit and MS4 Permit would reduce the potential for construction activities to increase the rate and amount of erosion, siltation, and runoff. The impact would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

(iv) impede or redirect flood flows?

Summary of 2020 General Plan FEIR

As previously mentioned, the Prior FEIR indicated that the RUL is highly urbanized and determined that the extension or introduction of any impervious surfaces would add minimal runoff volumes. However, the Prior FEIR identified policies and implementation programs in the 2020 General Plan that would reduce impacts pertaining to the alteration of existing drainage patterns impeding or redirecting flood flows, such as Policies CS-11.6 and CS-11.7, requiring new developments to establish BMPs through the obtainment of a NPDES permit for the construction of their stormwater systems. Additionally, Policy NR-1.4 requires future waterway improvement projects within 100 feet of a waterway to be reviewed to minimize impacts on natural drainageways such as riparian and aquatic habitats, and Implementation Program NR-1.E requires that sensitive construction practices be implemented to reduce erosion and sedimentation, protect riparian areas and native vegetation, and maintain unobstructed drainageways. Therefore, the Prior FEIR concluded that the 2020 General Plan identified policies and implementation programs intended to minimize impacts pertaining to impeding or redirecting flood flows and concluded that the 2020 General Plan would have less than significant impacts related to altering drainage patterns which could impede or redirect flood flows.[84]

Proposed Project Analysis and Conclusion

The proposed project would have a significant impact if it were to substantially alter the existing drainage pattern of the project site in a manner that would result in impeding or redirecting flood

[84] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.9-1 – 3.9-4. December 1.

flows. Such drainage effects could occur from grade changes at the site, exposure of soils for periods of time during precipitation events, alterations to creek beds, or increased on-site impervious areas.

The proposed project would include a total of 199,285 square feet of new and replaced impervious surface area at the project site (including El Centro Avenue half street frontage and Lassen Street frontage). The addition of impervious surface area could increase the rate and amount of surface runoff at the project site. According to the FIRM, published by FEMA, the project site is within the 100- and 500-year floodplain which delineates an area that has a 1 percent and 0.2 percent chance of experiencing a flood event, respectively. The increase in impervious surfaces on the project site could increase flood related impacts during a flood event; however, the proposed project would implement a Stormwater Control Plan to reduce impacts of flooding during project operation.

The Stormwater Control Plan (Appendix F) includes flood management design features included as part of the proposed project to reduce the potential flood hazard, such as use of permeable pavers, dispersal of runoff to pervious areas, and use of bioretention facilities. The Hydraulic Analysis (Appendix F) prepared for the proposed project concluded that these design features would successfully reduce potential flood risks at the project site. These design features involve elevating portions of the project site above the 100-year flood elevation. The addition of bioretention areas at the project site is also included as part of the proposed project to ensure that the proposed post-development flow discharge from the project site would not exceed pre-developed levels. The addition of these proposed project design features would reduce the amount of surface runoff from the project site and, therefore, reduce the risk of flooding as a result of the proposed project. The impact would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

d) Risk of Pollutant Release Due to Inundation

Would the project: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Summary of 2020 General Plan FEIR

The Prior FEIR referenced historical flood events associated with the Napa River and located areas with flood hazard conditions within the City, mostly comprised of areas along the Napa River and its tributaries. These areas are within a 100-year floodplain as designated by FEMA. As such, future development associated with the implementation of the 2020 General Plan could be located within a 100-year floodplain, which puts future development at risk of inundation potentially leading to pollutant release. However, the General Plan FEIR identified policies within the 2020 General Plan, such as Policy HS-3.3, which would ensure continued participation in FEMA's flood insurance program, and Policy HS-3.1, which recommends continued floodplain management intended to protect development situated in the 100-year floodplain. Furthermore, Policy Resolution No. 27 requires developments along the Napa River and its tributaries that are susceptible to flooding to obtain Certifications of Compliance from an architect or civil engineer indicating compliance with the

Public Works Department's flood zone development requirements and requires construction projects to properly store hazardous materials that could result in water pollution. As such, the Prior FEIR concluded that the 2020 General Plan contains policies and implementation programs that would minimize flood hazards and prevent the release of pollutants from project inundation and impacts would be less than significant.[85]

Proposed Project Analysis and Conclusion

While the project site is within a seismically active region, the location is inland (approximately 35 miles east of the Pacific Ocean and approximately 14 miles northeast of San Pablo Bay) and there are no large bodies of water in proximity to the project site. As such, the project site would not be at risk of inundation from a tsunami or seiche. As discussed above, the project site is within the 100-year and 500-year floodplain.

Construction activity would be expected to involve the transport, use, and disposal of hazardous materials, such as diesel fuels, aerosols, and paints, which are typical for residential construction projects. Transport, use, and disposal of hazardous materials can increase the risk of accident conditions that could involve the likely release of hazardous materials into the environment. However, the use of these materials at the project site would be limited to construction of the proposed project and would not be stored at the project site after construction is complete. Although inundation by flood water would be unlikely during construction, the proposed project would still comply with the NPDES General Permit and MS4 Permit. As discussed above, the NPDES General Permit would require a SWPPP and associated BMPs, which would include measures that would reduce the potential for pollutants to be released into the environment. As the proposed project would develop a subdivision, there would be no hazardous materials stored on-site during operation of the proposed project. Therefore, the risk of releasing pollutants due to inundation at the project site would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

e) Water Quality Control or Sustainable Groundwater Management Plans Consistency

Would the project: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address impacts pertaining to conflicting or obstructing water quality control or sustainable groundwater management plans. However, the Prior FEIR identified policies and implementation programs within the 2020 General Plan that would reduce impacts to surface and groundwater quality. These policies include Policy CS-11.5, directing the City to develop stormwater management programs intended to reduce waterborne pollution discharges consistent with requirements established by the RWQCB's Basin Plan, and Policies CS-11.6 and 11.7, requiring

[85] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.9-1 – 3.9-4. December 1.

projects to obtain NPDES permits and implement site-specific BMPs for stormwater systems. Future development would also be required to abide by the City's Policy Resolution No. 27, which requires construction activities to minimize pollutants entering the stormwater system or groundwater basin. Furthermore, the Prior FEIR determined that the introduction of additional impervious surfaces within the RUL from the implementation of the 2020 General Plan would only result in minimal amounts of runoff volumes, potential pollutant loading, and interference with groundwater recharge due to the RUL's already highly urbanized setting. As such, existing environmental conditions and policies and implementation programs within the 2020 General Plan would prevent conflicting or obstruction of water quality control and sustainable groundwater management plans. Therefore, the Prior FEIR concluded that impacts would be less than significant.[86]

Proposed Project Analysis and Conclusion

The proposed project would be in compliance with the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), the State's statutory authority for the protection of water quality. The Porter-Cologne Act requires the adoption of water quality policies and plans that protect the State's waters. In this case, the San Francisco Bay RWQCB is responsible for the project site, and the proposed project is consistent with the San Francisco Bay RWQCB MRP and the NPDES General Permit as described above. Additionally, the proposed project would include bioretention basins, consistent with the Stormwater Control Plan, NPDES General Permit, and MS4 Permit. As such, the proposed project would be in compliance with the Porter-Cologne Act. Therefore, the proposed project would not conflict with a water quality control plan.

The project site is within the Napa Vally subbasin of the larger Sonoma-Napa Valley Groundwater Basin. The Napa Valley subbasin is managed by the Napa Valley Subbasin Groundwater Sustainability Plan (GSP). The Napa Valley Subbasin GSP has six sustainability goals that involve avoiding negative effects related to groundwater. These effects include chronic lowering of groundwater levels, reduction of groundwater storage, significant seawater intrusion, groundwater contamination, land subsidence, and depletion of surface water supplies. The proposed project would not cause seawater intrusion, land subsidence, or depletion of surface waters. The proposed project would not include groundwater extraction or result in a reduction in storage. The inclusion of bioretention areas at the project site would allow for increased water infiltration on the project site and ensure that such water is filtered before entering any groundwater. This would ensure the proposed project is consistent with sustainability goals in the Napa Valley Subbasin GSP, including the goals to manage groundwater to ensure sustainable supplies and to protect groundwater from contamination.[87] As such, the proposed project would not conflict with or obstruct a water quality management plan or the Napa Valley Subbasin GSP. Compliance with the Napa Valley Subbasin GSP would also ensure compliance with the Sustainable Groundwater Management Act (SGMA), as the Napa Valley Subbasin GSP was developed consistent with the SGMA. As such, the impact would be less than significant. Therefore, the proposed project does not have any project-specific significant

[86] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.9-1 – 3.9-4. December 1.

[87] Napa County. 2022. Napa Valley Subbasin Groundwater Sustainability Plan, Section 9 – Sustainable Management Criteria. January.

effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Hydrology and Water Quality, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.11 Land Use and Planning *Would the project:*					
a) Physically divide an established community?	Not Applicable	No	No	No	No
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	No	No	No	No

a) Division of an Established Community

Would the project: Physically divide an established community?

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the 2020 General Plan potentially dividing an established community. However, the Prior FEIR determined that future commercial, residential, and industrial development in the City would be compatible with existing commercial, residential, and industrial development within the RUL and identified various policies in the 2020 General Plan which would emphasize infill development and ensure that new development would be compatible with surrounding development. These policies include Policy LU-4.1 and LU-4.5, which require that new residential development to be consistent with the existing neighborhood typology; Policy LU-4.9, which aims to eliminate incompatible uses through targeted code enforcement; Policy LU-5.4 and LU-5.6, which permit the expansion of commercial uses adjacent to non-commercial uses only where such use is compatible and would be appropriately buffered; Policy LU-7.2, which encourages industrial uses that are inappropriately located to be replaced and redeveloped with land uses consistent with the goals and standards of the General Plan; and Policy LU-7.4, which requires industrial development to be designed and operated to minimize nuisances on adjacent uses, such as noise, heat, glare, dust, and air emissions.[88]

[88] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.2-3 – 3.2-4. December 1.

Proposed Project Analysis and Conclusion

The physical division of an established community typically refers to the construction of a physical feature, such as an interstate highway or railroad tracks, or removal of a means of access, such as a local road or bridge, that would impair mobility within an existing community or between a community and an outlying area. The project site is in an urbanized and residential area. Surrounding land uses include single-family residential properties designated as LDR to the north, south, and east and multi-family residential properties on lands designated as HDR to the west.

Development of the proposed project would not disrupt the surrounding land uses or divide the physical arrangement of the established communities to the north, south, east, and west of the project site. The proposed project would redevelop what is currently private property into a residential neighborhood consistent with adjacent land. Additional access would be added to the site via internal sidewalks throughout the project site and along El Centro Avenue. Therefore, the proposed project would not physically divide an established community and would improve connectivity within the community. Impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Conflict with Applicable Land Use Plans, Policies, or Regulations

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

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that the RUL consists of mostly urbanized uses with residential uses being the most common land use, followed by parks and quasi-public, which includes City and County buildings, schools, utilities, public, parks, and recreational facilities. The RUL also comprises agricultural uses, which include underutilized and vacant sites scattered throughout the RUL where its urbanized environment precludes productive use of those agricultural lands. Lastly, commercial development in the RUL tends to be situated along major arterial roadways, and industrial uses consist of the lowest amount of land uses in the City and are mostly congregated in southern Napa. The Prior FEIR explained that implementation of the 2020 General Plan would result in the expansion of the RUL and encourage development on infill sites. As a result, future development associated with the implementation of the 2020 General Plan could result in potential land use conflicts and additional environmental effects. Although the Land Use section within the Prior FEIR primarily addressed design and intensity impacts pertaining to incompatibility with surrounding land uses, the Prior FEIR identified policies and implementation programs within the 2020 General Plan Land Use Element that would address environmental impacts of incompatible land uses, such as Policies LU-5.4 and LU-5.6, which require that new commercial uses adjacent to residential uses are consistent with the surrounding development and buffered from residential development. Additionally, tourist commercial land uses would be permitted only in areas where it would not impact existing residential, office, or

neighborhood commercial development. Furthermore, Policy LU-7.4 mandates future industrial development to be designed and operated to minimize nuisances that may impact adjacent uses, including noise, glare, and air emission impacts. The Prior FEIR also determined that the 2020 General Plan would be consistent with the ALUCP and the long-term UGB agreed upon by the County and City. As such, the Prior FEIR identified policies and implementation programs within the 2020 General Plan intended to reduce impacts related to conflicts with land use plans intended to avoid environmental impacts, and impacts would be less than significant.[89]

Proposed Project Analysis and Conclusion

The project site has a land use designation of SFR-20 in the operative 2020 General Plan, which allows for housing densities ranging from 4 to 8 dwelling units per acre.[90] The proposed project would have a housing density of approximately 5.33 dwelling units per acre, compliant with the land use designation.[91] Building setbacks would include at least 20-foot front setbacks, 15-foot rear setbacks, and 5-foot and 10-foot side setbacks, consistent with zoning regulations, except for homes on Lots 19, 38, 39, 40, 49, 50, and 51, where a reduction to 5-foot side setbacks would be requested in accordance with Small Lot Development Standards.

The project applicant requests approval of a use permit for the use of Small Lot Development Standards for specific lots to achieve the required net density given the site constraints, including the required setbacks from Salvador Channel. Section 17.52.470 of the Municipal Code authorizes Small Lot Development Standards to be used for smaller lots sizes and frontages where the development is compatible with the neighborhood and dwellings are proportionate to lot size and meet the City's residential design guidelines.[92] Small Lot Development Standards generally apply to Lots 8, 9, 10, 11, 12, 13, 14, 15, and 22. Additionally, seven lots (Lots 19, 38, 39, 40, 49, 50, and 51) are proposed as flag lots, meaning that they lie at the end of a long driveway.[93] Per Section 17.52.190 of the Municipal Code, guest parking is provided on the proposed driveways in lieu of on-street parking. With the approval of a use permit for the application of Small Lot Development Standards, the proposed project would be consistent with the land use and zoning of the project site. The proposed project would not conflict with any land use plan, policy, or regulation adopted for the purpose of mitigating an environmental effect. (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 2.13 of this document.) As such, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

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89 City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.2-3 – 3.2-9. December 1.

90 City of Napa. 1998. Envision Napa 2020: City of Napa General Plan, Land Use. December 1.

91 Calculated by dividing 9.56 acres by 51 lots.

92 City of Napa. 2024. Municipal Code – Zoning. Website: https://ecode360.com/43397584#43398432. Accessed May 7, 2025.

93 Ibid.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Land Use and Planning, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.12 Mineral Resources *Would the project:*					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	Not Applicable	No	No	No	No
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?	Not Applicable	No	No	No	No

a, b) Loss of Mineral Resources of Statewide or Local Importance

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?

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the loss of a known mineral resource valuable to the region and the residence of the State.

Proposed Project Analysis and Conclusion

The Surface Mining and Reclamation Act (SMARA) of 1975 is the principal State law regarding mineral resources. SMARA limits development in areas that contain mineral resources with significant economic value and mandates Mineral Resource Zones (MRZs), classified into categories based on both geological and economic data. Major mineral resources found in the greater Bay Area include salines, sand and gravel, limestone and shells, stone, and oil and gas.

There are four classifications of MRZ to classify existing or potential mineral resource sites within areas of the State, and they are described as follows:

MRZ-1 Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that there is little likelihood for their presence. This zone

shall be applied where the likelihood for occurrence of significant mineral deposits is nil or slight.

MRZ-2 Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence. This zone shall be applied to known mineral deposits or where the likelihood for occurrence of significant mineral deposits is high.

MRZ-3 Areas containing mineral deposits the significance of which cannot be evaluated from available data.

MRZ-4 Areas where available information is inadequate for assignment to any other MRZ zone.

There are no mineral resource recovery sites on the project site itself.[94]

The State Board of Mining and Geology has adopted regulations to protect lands classified as MRZ-2 (lands where information indicates that significant stone, sand, and/or gravel deposits are present or where a high likelihood of their presence exists). The only area classified as MRZ-2 by the California Geological Survey (CGS) within the City is the Napa Quarry, located approximately 5.6 miles southeast of the project site. The project site lies in an area mapped as MRZ-3, which cannot be evaluated from available data. There are no mineral resource recovery sites on the project site itself.[95] Therefore, the proposed project would not result in a loss of known mineral resources, and no impact would occur. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

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?

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the loss of a locally important mineral resource recovery site.

Proposed Project Analysis and Conclusion

The project site is not currently known to support any mineral extraction activities and is not identified as a locally important mineral resource recovery site by the General Plan. Therefore, the implementation of the proposed project would not result in the loss of local availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan. No impact would occur. Therefore, the proposed project does not have any project-specific

[94] California Geological Survey (CGS). 2013. Update of Mineral Land Classification: Aggregate Materials in the North San Francisco Bay Production-Consumption Region, Sonoma, Napa, Marin, and Southwestern Solano Counties, California.

[95] Ibid.

significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Mineral Resources, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.13 Noise *Would the project:*					
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?	Less than significant impact	No	No	No	No
b) Generation of excessive groundborne vibration or groundborne noise levels?	Not Applicable	No	No	No	No
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	No	No	No	No

a) Noise Levels in Excess of Adopted Standards

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

Summary of 2020 General Plan FEIR

The Prior FEIR outlined areas within the City that generate major sources of noise. Traffic from the City's roadways tends to be the major contributor of ambient noise levels mostly associated with the

State highways that transect the City, along with major arterials that range from approximately 65 to roughly 80 A-weighted decibels (dBA) at 50-foot contours from the centerline of the roadway during free-flowing traffic moving at the established speed limits. Other sources of noise in the City consist of aircraft noise, heavy machinery associated with vineyard operations, diesel pumps, and the Wine Train. The Prior FEIR established compatibility guidelines as the threshold of significance for exposure to an exceedance in ambient noise levels and summarized whether the increase in vehicular traffic associated with the implementation of the 2020 General Plan would result in a noticeable increase in ambient noise levels. The Prior FEIR determined that residential land uses would not experience noise levels greater than the 70 Community Noise Level Equivalent (CNEL) and noise levels would not exceed those thresholds established in the compatibility guidelines. Regardless, the Prior FEIR indicated that the 2020 General Plan establishes policies in Chapter 8, Health and Safety, intended to minimize noise impacts for existing and new land uses. Policies HS-9.3, HS-9.12, and HS-9.5 implement strategies to reduce vehicle and traffic related noise impacts, including evaluation of the City's designated truck routes and enforcement of State muffler and exhaust laws, and Policies HS-9.1 and HS-9.13 require new developments to remain below the established thresholds for exterior and interior noise levels within the compatibility guidelines. Furthermore, Policies HS-9.7 and HS-9.14 take into consideration proper site planning techniques and building design strategies, which can be used to reduce noise impacts. As such, the Prior FEIR concluded that implementation of the 2020 General Plan would not result in exceeding standards established in the compatibility guidelines and, thus, would not substantially increase ambient noise levels for surrounding areas. Therefore, 2020 the General Plan FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

Short-term Construction Impacts

A significant impact would occur if construction activities would result in the generation of a substantial temporary increase in ambient noise levels that would exceed City standards. The City's construction noise standards restrict construction activity to daytime hours and require best management noise reduction measures, as detailed in the regulatory discussion above. In addition, for the purposes of this analysis, a substantial temporary increase is a temporary increase that would result in annoyance or sleep disturbance of nearby sensitive receptors. While the City does not establish noise level thresholds for construction activities, this analysis uses the noise limits established by the Federal Transit Administration (FTA) to identify the potential for impacts due to substantial temporary construction noise. The FTA identifies construction noise limits in the Transit Noise and Vibration Impact Assessment Manual. During daytime hours, a significant temporary increase would be an increase in excess of the average daily noise levels of 80 dBA equivalent noise/sound level ($L_{eq(8\text{-hour})}$) as measured at a receiving residential land use.

Noise impacts from construction activities associated with the proposed 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 proposed 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.

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 project 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 the construction of the proposed 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 maximum noise/sound level (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 the proposed areas of construction is a single-family residence on Moss Lane, southeast of the project site. The façade of this closest residence would be located approximately 40 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 87 dBA L_{max}, intermittently, and could have an hourly average of up to 85 dBA L_{eq} at the façade of the nearest single-family residential home if multiple pieces of equipment operate simultaneously at the nearest center of construction activity. These reasonable worst-case construction noise levels would only occur periodically throughout the day as construction equipment operates along the nearest project boundaries. Additionally, these noise levels would drop off at a rate of 6 dBA per doubling of distance as the equipment moves over

the project site. Therefore, the calculated reasonable worst-case 8-hour average noise level for construction assuming construction equipment moves over the project site would be 77 dBA $L_{eq(8\text{-hour})}$ as measured at the nearest residential receptor. Therefore, these calculated reasonable worst-case construction noise levels would not exceed the FTA's average daily threshold of 80 dBA $L_{eq(8\text{-hour})}$ as measured at the nearest residential receptors.

Aside from residential uses, the next closest sensitive receptor to the proposed areas of construction is Willow Elementary School located northeast of the project site. The façade of the closest building on the school campus is located approximately 360 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 68 dBA L_{max}, intermittently, and could have an hourly average of up to 60 dBA L_{eq} at the façade of the school if multiple pieces of equipment operate simultaneously at the nearest center of construction activity. These reasonable worst-case construction noise levels would only occur periodically throughout the day as construction equipment operates along the nearest project boundaries. Additionally, these noise levels would drop off at a rate of 6 dBA per doubling of distance as the equipment moves over the project site. Therefore, the calculated reasonable worst-case 8-hour average noise level for construction assuming construction equipment moves over the project site would be approximately 56 dBA $L_{eq(8\text{-hour})}$ as measured at the school. Therefore, these calculated reasonable worst-case construction noise levels would not exceed the FTA's average daily threshold of 80 dBA $L_{eq(8\text{-hour})}$ as measured at the nearest school receptor.

The proposed project would comply with the City's Municipal Code requirements restricting construction activity to the hours between 8:00 a.m. and 5:00 p.m. Monday through Friday and 8:00 a.m. to 4:00 p.m. on weekends and holidays, which would preclude the proposed project from resulting in any nighttime sleep disturbance of nearby sensitive receptors. In addition, the proposed project would comply with the best management noise reduction measures detailed in Section 8.08.025 of the Municipal Code, including ensuring that all muffler systems on construction equipment are properly maintained; that all construction equipment is not placed adjacent to developed areas unless said equipment is provided with acoustical shielding; and that all construction and grading equipment is shut down when not actively in use. These measures would further reduce construction noise levels below the reasonable worst-case noise level estimates identified above.

Therefore, the proposed project construction activities would not result in a substantial temporary increase in ambient noise levels in excess of established standards, and the impact would be less than significant.

Operational/Stationary Source Noise Impacts

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 the City's normally acceptable noise land use compatibility standard of 60 dBA CNEL for residential land uses.

Mechanical Equipment Operations

A reference noise level for typical residential mechanical ventilation systems was used. Noise levels from typical residential mechanical ventilation equipment are sound rated from 50 dBA to 70 dBA L_{eq} as measured at approximately 3 feet from the operating unit.

Mechanical ventilation systems could be located as close as 30 feet from the nearest off-site residential receptor. At this distance, noise generated by mechanical ventilation equipment would attenuate to less than 45 dBA L_{eq} at the nearest receiving residential property. Therefore, these noise levels would not exceed the City's normally acceptable noise land use compatibility standard of 60 dBA CNEL.

In addition, documented ambient noise levels at the border of the project site range from 48.2 L_{eq} to 62.6 L_{eq}. These noise measurements are documented in Appendix G. Therefore, the calculated reasonable worst-case mechanical ventilation equipment operational noise levels would not exceed the documented existing ambient noise levels.

Therefore, proposed mechanical ventilation equipment operational noise levels would not result in a substantial permanent increase in ambient noise levels in excess of the City's noise performance standards or exceed the documented ambient noise levels as measured at the nearest off-site residential property. Thus, noise impacts from proposed mechanical ventilation equipment operations would be less than significant.

Operational/Mobile Source Noise Impacts

A significant impact would occur if project-generated traffic would result in a substantial increase in excess of the City's noise land use compatibility standards. 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.

Documented ambient noise levels at the border of the project site ranges from 48.2 L_{eq} to 62.6 L_{eq}. These noise measurements are documented in Appendix G. Therefore, the applicable threshold for a substantial increase in traffic noise levels would be a 5 dBA or greater increase.

W-Trans conducted an Addendum to the Traffic Impact Study for the Zinfandel Estate Subdivision – VMT Analysis (Appendix H), which includes an evaluation of existing and future traffic noise conditions in the project vicinity.[96] According to the VMT Analysis prepared by W-Trans (Appendix H), the proposed project would generate 51 trips during the AM peak-hour and 67 trips during the PM peak-hour. However, the existing traffic on El Centro Avenue adjacent to the project site has 345 trips during the AM peak-hour and 241 trips during the PM peak-hour. Thus, the actual project increase in trips generated by the proposed project would not double the hourly average traffic volumes on this roadway segment and would result in a less than 1 dBA increase in traffic noise levels on any of the local roadways in the project vicinity.

Therefore, project traffic would not result in a substantial increase of 5 dBA or greater above ambient noise levels, and project-related traffic noise impacts on off-site receptors would be less than significant.

Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Groundborne Vibration

Would the project result in: Generation of excessive groundborne vibration or groundborne noise levels?

Summary of 2020 General Plan FEIR

The Prior FEIR did not address impacts pertaining to excessive groundborne vibration or noise. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the project's potential of generating excessive groundborne vibrations or noise levels.

Proposed Project Analysis and Conclusion

A significant impact would occur if the proposed project would generate groundborne vibration or groundborne noise levels in excess of established standards. For determining construction-related vibration impacts, the FTA's 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.

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.

[96] W-Trans. 2020. Addendum to the Traffic Impact Study for the Zinfandel Estate Subdivision – VMT Analysis. August 17.

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 northeast of the project site. The façade of this building would be located approximately 100 feet from the nearest construction footprint where the heaviest construction equipment would potentially operate. At this distance, groundborne vibration levels would range up to 0.012 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 nonengineered 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 proposed project would generate excessive groundborne vibration levels at sensitive receptors in the project vicinity.

Implementation of the proposed project would not include any permanent sources 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 project vicinity. In addition, there are no existing significant permanent sources of groundborne vibration in the project vicinity to which the proposed project would be exposed. Therefore, project operational groundborne vibration level impacts would be considered less than significant.

The proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Airport or Private Airstrip Noise

Would the project result in:	**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?**

Summary of 2020 General Plan FEIR

As previously mentioned, the Prior FEIR identified aircrafts as one of the major sources of noise affecting the City. The Napa County ALUCP addresses land use measures to minimize exposure of potential future developments to safety hazards and excessive noise levels within its planning area, which encompasses most of the Stanly Ranch Planning Area and the southern portion of the River East Planning Area. The Prior FEIR highlighted policies within the 2020 General Plan intended to prevent exposure of individuals to excessive noise levels within an airport land use plans planning area, such as Policy HS-6.1, which requires future development implemented from the 2020 General Plan to undergo review by the Napa County ALUC, including restricting certain land uses and establishing proper safety standards to ensure consistency with the Napa County ALUCP. As such, the Prior FEIR concluded that the 2020 General Plan is consistent with those policies established in the Napa County ALUCP and would not expose individuals to excessive noise levels resulting in less than significant impacts.

Proposed Project Analysis and Conclusion

A significant impact would occur if the proposed 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 Napa County Airport located approximately 8.23 miles south of the project site. The project site is located outside of the 60 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 proposed 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 no impact would occur.

Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Noise, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.14 Population and Housing *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	No	No	No	No
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Not Applicable	No	No	No	No

a) Growth Inducement

Would the project: Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Summary of 2020 General Plan FEIR

The Prior FEIR determined that the City had a population of 69,640 individuals and 27,098 dwelling units in 1995. Population projections for 2020 indicated that the City would have a population of approximately 81,100 individuals and 34,938 dwelling units considering residential buildout within the RUL from the implementation of the 2020 General Plan.[97] The Prior FEIR discussed project impacts related to direct and indirect population growth within Section 4.3, Growth Inducing Impacts, and claimed that the 2020 General Plan includes a growth management strategy emphasizing continued reliance on future development within the RUL and ensuring the induced growth would not use up the City's remaining residential land supply before 2020. Furthermore, the Prior FEIR determined that implementation of the 2020 General Plan would be consistent with ABAG's regional growth projections.[98] Additionally, as the RUL is already highly urbanized, the 2020 General Plan would not

[97] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page S-3. December 1.

[98] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.2-8 – 3.2-9. December 1.

result in the extension of any public services or utilities that could induce indirect population growth. Therefore, the Prior FEIR concluded that implementation of the 2020 General Plan would not induce direct or indirect substantial population growth, a less than significant impact.

Proposed Project Analysis and Conclusion

According to the United States Census Bureau, the average household size in the City is 2.58 .[99] Given that the proposed project would result in the construction of 73 new units (including 51 single-family homes, 12 ADUs, and 10 junior ADUs), it can be conservatively assumed that the proposed project would generate up to 189 new residents.[100] This represents a nominal amount (0.24 percent) of the total City population, which currently amounts to approximately 77,492 persons.[101] As such, the current City population is lower than that was projected by the Prior FEIR for 2020. Additionally, according to the City's Housing Element, the City's population is expected to increase to 90,288 by 2040.[102] The proposed project is also consistent with the General Plan's land use designation of the project site, so the population growth of 189 new residents would be considered planned growth. Thus, the proposed project would not induce substantial unplanned population growth in the City, either through new housing or new businesses or indirectly through the extension of roads or other infrastructure. Therefore, a less than significant impact would occur. Thus, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Displacement of Persons or Housing

Would the project: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the project's potential to displace substantial numbers of existing people or housing, resulting in the construction of replacement housing elsewhere. However, the 2020 General Plan would increase residential uses within the City and would not result in any direct development that could displace existing people or housing.

Proposed Project Analysis and Conclusion

The project site currently contains one single-family residence, a detached garage, and a driveway connecting to El Centro Avenue. Development of the proposed project would involve the removal of existing trees, vineyards, one single-family residence, the detached garage, and a pedestrian bridge.

[99] United States Census Bureau. QuickFacts: Napa City, California. Website: https://www.census.gov/quickfacts/fact/table/napacitycalifornia/HSG010222. Accessed May 7, 2025.

[100] 2.58 persons per residential unit * 73 residential units = 188.34 persons

[101] 189 new residents/77,492 existing population = 0.00243, or approximately 0.24 percent

[102] City of Napa. 2015. Housing Element. June 16.

Considering the average household size in Napa in 2024, approximately 2.58 people would be displaced through the removal of the one existing residence.

The City currently contains approximately 1,594 vacant housing units.[103,104,105] Accordingly, there are ample housing opportunities and the removal of the one residence would not represent a substantial displacement of people or housing. Moreover, the proposed project would result in the construction of new housing that could serve up to 189 people. Therefore, impacts would be less than significant. Thus, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Population and Housing, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

[103] The California Department of Finance (CDF) City/County Population and Housing Estimates show that there are 31,884 total housing units within the City of Napa, and the City has a vacancy rate of approximately 5 percent. Thus, there are approximately 1,594 vacant housing units within the City.

[104] California Department of Finance (CDF). 2024. Population and Housing Estimates for Cities, Counties, and the State — January 1, 2024 and 2025. Website: https://dof.ca.gov/forecasting/demographics/estimates-e1/. Accessed May 7, 2025.

[105] City of Napa. 2022. General Plan Update Environmental Impact Report (2040 General Plan EIR). March.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.15 Public Services *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*					
a) Fire protection?	Less than significant impact	No	No	No	No
b) Police protection?	Less than significant impact	No	No	No	No
c) Schools?	Less than significant impact	No	No	No	No
d) Parks?	Less than significant impact	No	No	No	No
e) Other public facilities?	Less than significant impact	No	No	No	No

a) Fire Protection

Would the project: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?

Summary of 2020 General Plan FEIR

The City of Napa Fire Department (NFD) provides fire protection and emergency services to the City of Napa. At the time the Prior FEIR was prepared, the NFD consisted of 46 personnel, 18 firefighter reserve positions, and three fire stations. The Prior FEIR indicated that the NFD attempts to maintain a 3-minute average response time for areas within a 1.5-mile radius of each station and a 5-minute response time limit for other locations within its service area. Furthermore, the Prior FEIR highlighted that the call volume increased by approximately 21 percent from 1988 to 1993, which was likely caused by population growth. As such, the Prior FEIR acknowledged that future development within

the RUL associated with the implementation of the 2020 General Plan would increase the demand for fire protection services. However, the Prior FEIR indicated that policies and implementation programs, such as Policies CS-5.1, which calls for the maintenance of personnel and equipment to provide necessary services for the City; Policy CS-5.6, which requests for supplying sufficient water supply available for firefighting throughout the community; and Policy CS-5.8, which ensures the continuation of established mutual aid agreements with the State and surrounding local departments, would reduce potential impacts. In addition, new developments anticipated from the implementation of the 2020 General Plan would adhere to Policy Resolution No. 27, which includes compliance with the Uniform Fire Code and NFD's established Standard Requirements for Commercial/Residential Projects, along with Municipal Code 15.78, which requires automatic sprinkler systems and payment of fire and paramedic fees. Therefore, the Prior FEIR concluded that implementation of the 2020 General Plan would not adversely affect emergency response times but did not directly address impacts pertaining to service ratios and performance objectives. The Prior FEIR concluded that impacts would be less than significant.[106,107]

Proposed Project Analysis and Conclusion

The NFD is a multi-hazard, all-risk response agency that provides emergency services to the citizens and visitors of the community, seeking to protect life, property, and the environment. NFD is divided into three divisions: Administration, Operations, and Prevention. The project site is served by NFD Station No. 3, located at 2000 Trower Avenue, which is approximately 2,084 feet southwest of the project site.

The proposed project would not substantially increase demand for fire protection services such that it would require new government facilities to be built or expanded because the proposed project is consistent with the project site's General Plan land use designation. As such, the proposed project is consistent with the population growth and uses assumed and planned for under the 2020 General Plan. Additionally, as described in Section 2.14, the proposed project would result in a nominal increase in the City's population, allowing NFD to maintain all applicable service goals. The close proximity of Station No. 3 would allow NFD to maintain its response time goal. Emergency access would be available via El Centro Avenue for the northern portion of the site and via Lassen Street for the southern portion of the site.

Furthermore, the proposed project would comply with all applicable requirements of the Municipal Code and Policy Resolution No. 27 related to fire protection, including installing automatic sprinkler systems in the proposed buildings, providing fire extinguishers and adequate site access, and paying development fees. Impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

[106] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-1. December 1.

[107] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-6. December 1.

b) Police Protection

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: Police protection?

Summary of 2020 General Plan FEIR

The Prior FEIR identified that the Napa Police Department (NPD) serves the City and consisted of a total of 66 sworn police officers and community service officers who patrol four beats within the City as of 1994. The NPD had an average response time for Priority I calls of 3 minutes and 45 seconds. Although the NPD maintained a response time below the established threshold, the Prior FEIR acknowledged that future development implementing the 2020 General Plan would increase the demand for police services, which could result in the need for new facilities. As such, the Prior FEIR highlighted Policy CS-2.2 from the 2020 General Plan, which calls for the police force to remain sufficiently staffed to continue to achieve response times within the five-minute threshold. Furthermore, most of the new developments associated with the implementation of the 2020 General Plan would be within the RUL and in already established beats, and those areas planned to be incorporated into the RUL would be feasibly accessible with major roadways in proximity to existing beats. Lastly, the NPD's Community Service Officers handle non-emergency calls, which allows the NPD to maintain acceptable service levels for high-priority tasks. As such, the Prior FEIR concluded that future developments implementing the 2020 General Plan would not adversely affect response times, service ratios, or performance objectives, and impacts would be less than significant.[108,109]

Proposed Project Analysis and Conclusion

Police protection services are provided to the project site by NPD. The NPD consists of approximately 76 sworn personnel and 71 professional staff. The department is divided into two main divisions: Operations and Administration/Support Services.[110] Officers are dispatched from police headquarters located at 1539 First Street, approximately 2.97 miles southeast of the project site.

The proposed project would not substantially increase demand for police protection services or require new sworn officers, or new or expanded government facilities. As described in Section 2.14 and above, the proposed project is consistent with the project site's General Plan land use designation and would result in a nominal increase to the City's population, consistent with the growth assumed and planned for within the 2020 General Plan. The proposed project would also be required

[108] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-1. December 1.

[109] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-5 – 3.4-6. December 1.

[110] City of Napa. Police Department. Website: https://www.cityofnapa.org/323/Police-Department#:~:text=The%20Napa%20Police%20Department%20was,week%2C%20365%20days%20a%20year. Accessed May 7, 2025.

to pay all applicable development fees and comply with applicable requirements related to the provision of police services. As such, the proposed project would not inhibit emergency response time, service ratios, or performance objectives. Impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Schools

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: Schools?

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that future development from the implementation of the 2020 General Plan would increase the need for public facilities, including schools. The Prior FEIR did not directly address impacts that new development associated with the 2020 General Plan may have on existing schools, which could result in the need for new or altered schools. Rather, it directly addressed whether implementation of the 2020 General Plan would construct new or expand existing schools, which could result in a significant impact on the environment. However, the Prior FEIR indicated that the specific sites and construction schedules for any new schools were uncertain and analyzing the potential impacts of new or expanded school facilities would be speculative. Nevertheless, the Prior FEIR stated that Municipal Code Chapter 15.68 would require new developments to pay required fees for public services, and new public facility projects, such as schools, would be subject to CEQA review.[111] Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

The Napa Valley Unified School District (NVUSD) serves more than 16,500 students in kindergarten through twelfth grade in 27 schools.[112] Willow Elementary School is the closest public elementary school to the project site, located approximately 715 feet northeast from the project site. Unidos Middle School is the closest public middle school, located approximately 0.59 mile northwest of the project site, and Vintage High School is the closest public high school, located approximately 0.44 mile southeast of the project site.

The fees set forth in Government Code Section 65996 constitute the exclusive means of both “considering” and "mitigating" school facilities impacts of projects. With payment of impact fees to

[111] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-17. December 1.

[112] Napa Valley Unified School District (NVUSD). About the NVUSD. Website: https://www.nvusd.org/about. Accessed May 7, 2025.

NVUSD, operation of the proposed project would have less than significant impacts. Additionally, the proposed project would result in a nominal increase in the population of the City, and therefore, new students would be able to be accommodated without disrupting the service objectives and student-teacher ratio goals set out by NVUSD. Thus, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

d, e) Parks and Other Public Services?

Would the project: **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Parks? Other public services?**

Summary of 2020 General Plan FEIR

As previously mentioned, the 2020 General Plan did not directly address impacts that new development implementing the 2020 General Plan could have on existing public facilities, which could result in the need for new or altered facilities. Rather, it addressed impacts that would be generated from the construction of new or altered facilities associated with the implementation of the 2020 General Plan. Since the 2020 General Plan would not directly construct any new facilities, the Prior FEIR concluded that the sites and construction schedules for new facilities anticipated from the 2020 General Plan were uncertain. However, it did mention that new developments would be required to pay fees for public services under Napa Municipal Code Chapter 15.68 and that new public facility projects would undergo individual CEQA review.

Nevertheless, the Prior FEIR indicated that implementation of the 2020 General Plan would increase the need for public facilities and further mentioned that the City's Park and Recreation Element is incorporated into the 2020 General Plan, which calls for the construction of a proposed City trail system. Since the Prior FEIR anticipated that implementation of the 2020 General Plan would generate an increase in demand for public facilities such as parks and includes the City's Park and Recreation Element, which plans for the construction of a new City trail system, the Prior FEIR outlined policies contained within the 2020 General Plan intended to avoid and reduce significant environmental impacts pertaining to the construction of the City trail system, such as Policies NR-1.1 and NR-1.8, which are intended to reduce impacts related to biological resources through the protection of riparian habitats from incompatible uses and activities. Furthermore, the 2020 General Plan contains policies that can be associated with any new recreational facilities, such as Policy PR-3.4, which claims that the City will locate new parks and facilities in areas adjacent to those protected by development. Additionally, new parks and recreational facilities would be required to comply with Policy Resolution No. 27, which requires new facilities to submit a grading and drainage plan to prevent drainage impacts from introduced impervious surfaces and construction activities and to

install and shield low-level lighting in parking areas to avoid glare. Overall, the Prior FEIR did not directly address project impacts on existing facilities, which could result in the need for new or altered facilities. Rather, the Prior FEIR outlined policies from the 2020 General Plan intended to avoid and reduce significant environmental impacts related to the construction of new parks and facilities and concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

Parks

The City provides residents with access to approximately 820.5 acres of park land, including opportunities for both active and passive recreation. The City's park system consists of a variety of recreation attractions, such as parks, open space, playgrounds, sport fields, a golf course, the Napa River, and miles of natural and paved trails for walking, biking, and hiking. In addition to parkland resources, the Parks and Recreation staff maintains over 21 acres of landscaped areas throughout the City.[113] According to the General Plan, the Parks and Recreation element contains a target standard for provision of 1.5 acres of parks per 1,000 residents. Based on an estimate of 77,492 residents and a total City inventory of 820.5 acres of parkland, the Parks and Recreation Department provides over 10 acres of parkland per 1,000 residents, which is well in excess of the 1.5 acres/1,000 residents target.[114] The closest park to the proposed project is North Jefferson Park, approximately 1,268 feet northeast of the project site.

Although the proposed project does not propose the development of additional parks on-site, similar to all new development projects in the City, the project applicant would be required to dedicate land or pay fees, pursuant to Chapter 15.68 of the Napa Municipal Code, prior to the issuance of building permits. Therefore, the impact would be less than significant.

Other Public Facilities

There are several public facilities within the City, such as library branches, sports facilities, and community centers. As noted above and in Section 2.14, the proposed project would not likely create a substantial increase in demand or require construction of new facilities. The proposed project is consistent with the City's General Plan, and, as such, the estimated 189 residents would be considered planned growth consistent with the Prior FEIR. Therefore, impacts would be less than significant.

Conclusion

Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

[113] City of Napa. 2022. City of Napa 2040 General Plan. October.

[114] City of Napa. 2010. Parks and Facilities Master Plan.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Public Services, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.16 Recreation *Would the project:*					
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?	Not Applicable	No	No	No	No
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	No	No	No	No

a) Existing Neighborhood and Regional Parks

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

Summary of 2020 General Plan FEIR

The Prior FEIR analyzed local and regional parks under public facilities and stated that changes brought by a project from overuse and overcrowding to public facilities would not be considered as significant environmental impacts under CEQA at the time the Prior FEIR was established. As such, this checklist question was not included in the Prior FEIR. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the project's potential to cause substantial or to accelerate deterioration of a facility due to generating an increase in facility usage.

Proposed Project Analysis and Conclusion

The proposed project would result in the addition of 189 new residents to the City, which would increase the demand on existing neighborhood parks. Although the proposed project would not develop additional parks on-site, similar to all new development projects in the City, the project

applicant would be required to dedicate land or pay fees, pursuant to Chapter 15.68 of the Napa Municipal Code, prior to the issuance of building permits. Thus, any resulting increase in the need for additional facilities would be offset by the required payment of these development fees[115] and impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Recreational Facilities

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

Summary of 2020 General Plan FEIR

The Prior FEIR indicated that the 2020 General Plan incorporates the City's Parks and Recreation Element, which includes the development of a proposed City trail system. As such, the Prior FEIR acknowledged that construction and operation of the proposed City trail system could result in significant environmental impacts pertaining to biological resources, hydrology and water quality, noise, and aesthetics. However, the Prior FEIR highlighted policies intended to avoid and reduce impacts generated from the proposed City trail system which can also be applied to newly developed recreational facilities, such as Policies NR-1.1 and NR-1.8, which emphasize protection of biological resources by restricting public access to riparian habitats along the Napa River and its tributaries. For new recreational facilities associated with the implementation of the 2020 General Plan, Policy PR-3.4 would require the City to locate new parks and trails adjacent to protected areas when appropriate. Additionally, new recreational facilities would be required to abide Policy Resolution No. 27, which contains City standard mitigation measures for new developments, such as submitting a drainage and grading plan to prevent construction materials from entering public waterways and storm drains and requiring the utilization of low-level lighting in parking areas and shielding to avoid glare. The Prior FEIR also stated that the City's Parks and Recreation Element discloses appropriate mitigation measures that remain applicable to future parks and recreational facilities implementing the 2020 General Plan. Therefore, the Prior FEIR concluded that impacts would be less than significant.

Proposed Project Analysis and Conclusion

As discussed above, the proposed project does not include the construction or expansion of public recreational facilities. The proposed project would result in the addition of 189 new residents, which is already anticipated in the City's General Plan because the proposed project would be consistent with existing zoning and the General Plan land use designation. As described above, the proposed project would be required to pay in lieu fees to the City for park dedication. Therefore, the proposed project would not result in adverse physical impacts associated with such facilities and impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects

[115] City of Napa. 2024. Park Development Fees. Website: https://www.ecode360.com/43394047#43394047. Accessed: May 7, 2025.

which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Recreation, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.17 Transportation *Would the project:*					
a) Conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Significant and unavoidable impact	No	No	No	No
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Not Applicable	No	No	No	No
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Not Applicable	No	No	No	No
d) Result in inadequate emergency access?	Not Applicable	No	No	No	No

The analysis in this section is based, in part, on the Traffic Impact Study prepared for the proposed project by W-Trans on August 1, 2019, and the VMT Analysis prepared by W-Trans on August 17, 2020 (Appendix H).[116,117]

Setting

Study Area–Operational Analysis

The study area consists of El Centro Avenue fronting the proposed project and the project's access point, as well as the following intersections:

1. SR-29/Wine Country Avenue

[116] W-Trans. 2019. Traffic Impact Study for the Zinfandel Estate Subdivision. August 1.

[117] W-Trans. 2020. Addendum to the Traffic Impact Study for the Zinfandel Estate Subdivision – VMT Analysis. August 17.

2. Jefferson Street/El Centro Avenue

SR-29/Wine Country Avenue is a signalized, four-legged intersection with protected left-turn phasing on both SR-29 approaches, while the eastbound and westbound approaches of Wine Country Avenue have permitted left-turn phasing. A crosswalk with pedestrian phasing is provided on the northern leg and signs are present prohibiting pedestrian crossings on all other legs, directing pedestrians to cross at adjacent intersections.

Jefferson Street/El Centro Avenue is an unsignalized T-intersection stop-controlled on the eastbound El Centro Avenue approach. An alleyway creates a fourth leg to the intersection on the eastern side of Jefferson Street, though it is offset approximately 50 feet south of El Centro Avenue, so it is actually outside the area that makes up the intersection. Crosswalks are provided on the north and west legs of the intersection.

El Centro Avenue is a residential street that runs east–west and is bounded by Byway East on the west and Big Ranch Road on the east, but it is disconnected at Jefferson Street. The segment west of Jefferson Street is approximately 0.5 mile in length and has a posted speed limit of 30 miles per hour (mph) except for the section adjacent to the Willow Elementary School where the standard school speed limit of 25 mph "when children are present" is posted. The roadway varies in width between 28 and 40 feet depending on whether or not frontage improvements have been made to parcels on the southern side of the street. Street parking is permitted in the westbound direction and in select locations in the eastbound direction.

Collision History

Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports from January 1, 2012 through December 31, 2016. The calculated collision rates for the study intersections were compared to the average collision rates for similar facilities Statewide. As shown in Table 13, the study intersection of SR-29/Wine Country Avenue had a calculated collision rate below the Statewide average for similar facilities and there were no reported collisions at Jefferson Street/El Centro Avenue, indicating that there are no readily apparent safety issues at either intersection.

Table 13: Collision Rates at the Study Intersections

Study Intersection	Number of Collisions (2012–2016)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
SR-29/Wine Country Avenue	12	0.22	0.27
Jefferson Street/El Centro Avenue	0	0.00	0.18

Notes:
c/mve = collisions per million vehicles entering
Source: W-Trans. 2019.

Alternative Modes of Transportation

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities, such as lighting and benches. In general, a connected sidewalk network is present on the northern side of El Centro Avenue, but it is sporadic on the southern side. Curb ramps and crosswalks at side street approaches are present in the locations that do have sidewalks but not all are equipped with truncated domes and are, therefore, not compliant with current Americans with Disabilities Act (ADA) standards. Lighting is provided by overhead streetlights, and there is a single crosswalk on El Centro Avenue located just east of Verbena Street.

Bicycle Facilities

The Caltrans Highway Design Manual (HDM)[118] classifies bikeways into four categories:

- Class I Bikeway (Bike Path)–Provides a completely separate facility for the exclusive use of bicycles and pedestrians with crossflow by vehicles minimized.
- Class II Bikeway (Bike Lane)–Provides a striped lane for one-way bike travel on a street or highway.
- Class III Bikeway (Bike Route)–Provides for shared use with pedestrian or motor vehicle traffic.
- Class IV Bikeway (Separated Bikeway)–Provides for the exclusive use of bicycles and includes a separation (e.g., grade separation, flexible posts, inflexible physical barrier, or on-street parking) required between the separated bikeway and the through vehicular traffic.

Class II bike lanes exist on Jefferson Street between El Centro Avenue and Rubicon Street and between Salvador Avenue and Darling Street, and there are plans to provide a Class III bike route on El Centro Avenue. Additionally, a 12.5-mile segment of the Vine Trail is completed and runs parallel to SR-29 between Trancas Street in the City and Madison Street in Yountville. This trail is located approximately 0.25 mile west of the project site and, when completed, would provide regional bicycle access between Vallejo and Calistoga. A future Class I trail is also planned along Salvador Channel between Jefferson Street and SR-29, which would connect the project site to the Vine Trail. A future Class II bike route is also planned along Jefferson Street between Darling Street and El Centro Avenue. Table 14 summarizes the existing and planned bicycle facilities in the project vicinity.

[118] California Department of Transportation (Caltrans). 2020. Highway Design Manual (HDM). Chapter 1000: Bicycle Transportation Design: Website: https://dot.ca.gov/-/media/dot-media/programs/design/documents/chp1000-a11y.pdf. Accessed May 7, 2025.

Table 14: Bicycle Facilities in the Project Vicinity

Facility	Class	Length (miles)	Begin Point	End Point
Existing				
Vine Trail	I	12.5	Kennedy Park	Madison Street
Jefferson Street	II	0.9	El Centro Avenue	Rubicon Street
Jefferson Street	II	0.3	Darling Street	Salvador Avenue
Planned				
Vine Trail	I	Regional	Vallejo	Calistoga
Salvador Creek Trail	I	0.7	Jefferson Street	SR-29
El Centro Avenue	III	0.8	SR-29	Heather Lane
Jefferson Street	II	0.3	Darling Street	El Centro Avenue
Source: W-Trans. City of Napa Bicycle Plan. 2012.				

Transit Facilities

Transit services in the City and throughout Napa County are provided by Napa Valley Intercity Neighborhood Express (VINE). VINE Route E provides service between Salvador Avenue and 3rd Street every day of the week except for Sunday and stops on Byway East just north of El Centro Avenue and on Jefferson Street just south of Maximillian Court. Both stops are approximately 0.25 mile from the project site, which is considered an acceptable walking distance.

Dial-a-ride, also known as paratransit or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. VINE Go is VINE's paratransit service and is designed to serve the needs of individuals with disabilities in the cities of Calistoga, St. Helena, Napa, American Canyon, the Town of Yountville, and the unincorporated areas of Napa County.

Level of Service

Level of Service (LOS) is used to rank traffic operations on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. The ranges of delays associated with the various levels of service are indicated in Table 15.

Table 15: Intersection Level of Service Criteria

LOS	Two-Way Stop-Controlled	Signalized
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers existing the minor street.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queueing occurs on the minor street.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.
Source: Highway Capacity Manual. 2000.		

The LOS for Jefferson Street/El Centro Avenue, which has side street stop-controls, were analyzed using the “Two-Way Stop-Controlled” intersection capacity method from the 2010 Highway Capacity Manual. This methodology determines an LOS for each minor turning movement by estimating the level of average delay in seconds per vehicles. Results are presented for individual movements together with the weighted overall average delay for the intersection.

SR-29/Wine Country Avenue was evaluated using the signalized methodology from the 2000 Highway Capacity Manual. This methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology.

Existing

Under existing conditions, both study intersections are operating acceptably overall and on the El Centro Avenue approach at LOS C or better during both peak-hours. Table 16 summarizes the existing peak-hour intersection LOS.

Table 16: Existing Peak-hour Intersection Levels of Service

Study Intersection *Approach*	AM Peak		PM Peak	
	Delay[1]	LOS	Delay[1]	LOS
SR-29/Wine Country Avenue	29.1	C	29.7	C
Jefferson Street/El Centro Avenue	4.9	A	2.8	A
Eastbound (El Centro Avenue) Approach	17.8	C	12.3	B

Notes:
LOS = Level of Service
[1] Delay is measured in seconds per vehicle
Source: W-Trans. 2019.

Future

Future volumes for the horizon year 2040 were calculated based on output from the Napa Solano Travel Demand Model, maintained by the Solano Transportation Authority (STA). Base year (2015) and future (2040) segment volumes for the weekday AM and PM peak periods were used to calculate growth factors for the study intersections.

The growth factors projected by the model were adjusted to account for the 2 years of growth that occurred between 2015 and 2017 existing counts. The existing counts were then multiplied by the growth factor to project likely future AM and PM turning movement volumes at the study intersections. Growth factors of 1.24 and 1.10 were calculated for SR-29/Wine Country Avenue and Jefferson Street/El Centro Avenue, respectively, during both peak-hours.

Under the anticipated future volumes, both intersections are expected to continue operating acceptably at the same levels of service as under existing conditions. Future operating conditions are summarized in Table 17.

Table 17: Future Peak-hour Intersection Levels of Service

Study Intersection (Approach)	AM Peak		PM Peak	
	Delay[1]	LOS	Delay[1]	LOS
SR-29/Wine Country Avenue	31.6	C	33.1	C
Jefferson Street/El Centro Avenue	5.7	A	3.0	A
Eastbound (El Centro Avenue) Approach	21.4	C	13.1	B

Notes:
LOS = Level of Service
[1] Delay is measured in seconds per vehicle
Source: W-Trans. 2019.

a) Affect to Circulation System

Would the project: Conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Summary of 2020 General Plan FEIR

Transit

VINE and Napa Valley Transit (NVT) are the two public transit systems that serve the City. Both transit services carried approximately 700,000 passengers between 1993 and 1994, comprising about 2 percent of all street and highway trips throughout the County. The Prior FEIR did not mention any plan, policy, or program of the circulation system pertaining to public transportation. However, the Prior FEIR highlighted policies and implementation programs within the 2020 General Plan intended to support alternative modes of transportation to reduce automobile congestion, such as Policies LU-5.3 and T-5.12, which require new commercial developments to be designed to support mass transit and encourage developers to include public transit and other alternatives to single occupancy vehicles, and Policies T-5.7, T-5.9, and T-5.10, which encourage the expansion of the existing public transit system. Furthermore, Policy T-5.1 sets the objective of increasing the transit/automobile split from 2 percent between 1993 and 1994 to 5 percent by 2020 through financial support. As such, the Prior FEIR identified policies and implementation programs within the 2020 General Plan that would likely not conflict with any program plan, policy, or ordinance of the circulation system pertaining to public transportation.[119]

Bicycle Facilities

The Prior FEIR determined that the City contains a Bicycle Plan, which was developed in coordination with members from local cycling clubs, making up the Bicycle Advisory Committee (BAC). The Bicycle Plan looks to provide more direct access to public facilities. As such, the Prior FEIR indicated that the 2020 General Plan contains policies that are consistent with and support the Bicycle Plan, such as Policies LU-5.3 and T-6.9, which require the design and planning of new commercial and residential developments to support bicycle access, and Policies T-6.3 and T-6.12, which recommend establishing new bicycle infrastructure and connecting to existing regional bicycle routes. As such, the Prior FEIR concluded that the policies within the 2020 General Plan would not conflict with a program plan, policy, or ordinance of the circulation system pertaining to bicycle facilities.[120]

Pedestrian Facilities

The Prior FEIR did not directly address impacts pertaining to conflicting with a plan, policy, or program of the circulation system pertaining to pedestrian facilities. However, the Prior FEIR mentioned that retaining an attractive and safe pedestrian environment with storefronts is critical to downtown's long-term commercial success. The Prior FEIR outlined policies and implementation programs within the 2020 General Plan that support City's downtown objective, such as Policies T-9.1 and T-9.5, which recommend new and existing developments provide and maintain pedestrian

[119] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.3-16 – 3.3-17. December 1.

[120] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.3-16. December 1.

access, and Policy T-9.4, which encourages linking regional Ridge and Bay trails to downtown through connection of the City's planned trains. Furthermore, Implementation Program T-9.A would promote pedestrian access in development projects through zoning standards and incentives. Therefore, the Prior FEIR highlighted policies and implementation programs contained in the 2020 General Plan that support the City's downtown objective on maintaining a pedestrian environment and, thus, would not conflict with a program plan, policy, or ordinance of the circulation system pertaining to pedestrian facilities.[121]

Roadway Facilities

The Prior FEIR determined that the 2020 General Plan would not conflict with the Napa County Congestion Management Agency's Congestion Management Plan, and the majority of traffic associated with development within the City would be adequately mitigated by the policies and programs of the 2020 General Plan. However, some intersections would operate at LOS F, creating potentially significant impacts. Additionally, the Prior FEIR identified potentially significant impacts related to the uncertainty of funding for transportation improvements and City trips that would impact roads and intersections outside city limits. Therefore, the Prior FEIR concluded that impacts would be significant and unavoidable related to roadway facilities.[122]

Proposed Project Analysis and Conclusion

Pedestrian Facilities

Given the proximity of the project site to the transit stops located on Byway East and Jefferson Street, it is reasonable to assume that some residents of the subdivision would want to be able to walk to the stops and use the transit service. Additionally, some project residents may wish to walk to Willow Elementary School, which is located on the north side of El Centro Avenue and east of the project site. The proposed project would provide improvements along its entire frontage with El Centro Avenue consistent with the improvements that have already been made and the City's future plans for the roadway. Such improvements include widening El Centro Avenue by approximately 12 feet and providing a separated sidewalk, which would improve access for pedestrians and connect the site to the surrounding pedestrian network.

Bicycle Facilities

Existing bicycle facilities, including bike lanes on Jefferson Street between El Centro Avenue and Rubicon Street, together with shared use of minor streets provide access for bicyclists and would be further improved upon completion of the planned improvements outlined in the City of Napa Bicycle Plan, including a Class III bikeway along El Centro Avenue. The proposed project does not include any components that would potentially interfere with carrying out the planned bicycle projects. Additionally, the proposed project would include a Class III bikeway along El Centro Avenue between

[121] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.3-16. December 1.
[122] Ibid.

the Byway East and Jefferson Street consistent with the City's conditions of approval. These bicycle facilities would comply with all applicable policies and requirements.

Public Transit Facilities

Existing transit routes are adequate to accommodate project-generated transit trips, and the stops are within acceptable walking distance of the project site.

Level of Service

Short-Term

Upon the addition of project-related traffic to existing volumes, the study intersections are expected to continue operating acceptably at the same levels of service as under existing conditions. These results are summarized in Table 18.

Table 18: Existing and Existing Plus Project Peak-hour Intersection LOS

Study Intersection (Approach)	Existing Conditions				Existing Plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
SR-29/Wine Country Avenue	29.1	C	29.7	C	30.4	C	30.2	C
Jefferson Street/El Centro Avenue	4.9	A	2.8	A	5.2	A	3.1	A
Eastbound (El Centro Avenue) Approach	17.8	C	12.3	B	18.4	C	12.7	B

Notes:
LOS = Level of Service
[1] Delay is measured in seconds per vehicle
Source: W-Trans. 2019.

As shown in Table 19, above, the study intersections are expected to continue operating acceptably at the same LOS upon the addition of project-generated traffic to existing volumes, and the proposed project would be consistent with the General Plan's requirements related to LOS. Therefore, short-term impacts related to consistency with the General Plan would be less than significant.

Upon the addition of project-related traffic to the anticipated future volumes, the study intersections are expected to continue operating acceptably at the same levels of service as under existing conditions. The Future Plus Project operating conditions are summarized in Table 19.

Table 19: Future and Future Plus Project Peak-hour Intersection LOS

Study Intersection/*Approach*	Future Conditions				Future Plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
• SR-29/Wine Country Avenue	31.6	C	33.1	C	33.8	C	32.8	C
• Jefferson Street/El Centro Avenue	5.7	A	3.0	A	6.2	A	3.2	A
• *Eastbound (El Centro Avenue) Approach*	21.4	C	13.1	B	22.6	C	13.5	B

Notes:
LOS = Level of Service
[1] Delay is measured in seconds per vehicle
Source: W-Trans. 2019.

As shown in Table 20, above, with the addition of project-related traffic volumes, average delay at SR-29/Wine Country Avenue is projected to decrease slightly during the PM peak-hour. The proposed project would add trips predominantly to the northbound right-turn movement at this intersection during the evening peak-hours, which has a lower average delay than the intersection as a whole, resulting in a slight reduction in the overall average delay. Furthermore, the study intersections are expected to continue operating acceptably at the same LOS upon the addition of project-generated traffic to anticipated future volumes, and the proposed project would be consistent with the General Plan's requirements related to LOS. Therefore, long-term impacts related to consistency with the General Plan would be less than significant.

Conclusion

In summary, the proposed project would not conflict with any plans or policies for transportation facilities and would provide adequate pedestrian, bicycle, and transit facilities. Impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Inconsistent with CEQA Guidelines Section 15064.3

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

Summary of 2020 General Plan FEIR

This checklist question was not included in the Prior FEIR. No conclusion was made in the Prior FEIR regarding the significance level of impacts related to the proposed project's potential to conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

Proposed Project Analysis and Conclusion

CEQA Guidelines Section 15064.3 subdivision (b) discusses the potential impacts of projects for which land uses may increase VMT as a direct result of the implementation of the proposed project. VMT refers to the amount and distance of automobile travel attributed to a project. Other relevant considerations may include the effects of the proposed project on transit and non-motorized travel. Section 15065.3(b) of the CEQA Guidelines assesses criteria for analyzing transportation impacts, such as land use projects, transportation projects, qualitative analysis, and methodology. Section 15064.3(b)(1) states that projects within 0.5 mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact.

The City adopted significance thresholds for VMT on May 4, 2021. These thresholds are consistent with OPR's recommendations in the Technical Advisory on Evaluating Transportation Impacts in CEQA. For VMT screening requirements, the City follows the criteria set by the OPR in the Technical Advisory on Evaluating Transportation Impacts in CEQA.[123] To analyze the potential impact of the proposed project, a Countywide home-based VMT per capita estimate was calculated from the output of the California Statewide Travel Demand Model, using figures for population and VMT for each traffic analysis zone (TAZ) in the County. Based on this methodology, it was estimated that Napa County has a Countywide per capita home-based VMT of 11.05 miles per day. Applying OPR's guidance, a residential project generating a VMT that is 15 percent or more below this value, or 9.38 miles per capita per day or less, would have a less than significant VMT impact.

The proposed project is located in TAZ 808, which has a per capita home-based VMT of 7.85 miles per day, which is 29 percent below the Countywide average. Since this is more than 15 percent below the Countywide average value, the proposed project would have a less than significant transportation impact on OPR's guidance. This information is summarized in Table 20.

Table 20: Vehicle Miles Traveled Analysis Summary

VMT Metric	Baseline VMT Rate	Significance Threshold	Project VMT Rate	Resulting Significance
Residential VMT per Capita (Countywide Baseline)	11.04	9.38	7.85	Less than significant impact

Notes:
VMT = Vehicle Miles Traveled
VMT Rate is measured in VMT per capita, or the number of daily miles driven per resident.
Source: W-Trans. 2019.

[123] California Governor's Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December.

As shown in Table 21, above, the proposed project would be expected to have a less than significant transportation impact related to VMT. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Roadway Safety Hazards

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

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address whether future development associated with the implementation of the 2020 General Plan would increase hazards due to geometric design features or incompatible uses. However, the Prior FEIR identified goals and policies that the 2020 General Plan contained to reduce impacts related to roadway safety hazards or incompatible uses, such as Goal LU-4, which requires new development be consistent with the City's already existing character and urban form, including policies mandating the compatibility of residential, commercial, and industrial land uses.[124]

Proposed Project Analysis and Conclusion

The proposed project would include a new residential street, Clementina Circle, which would form a loop on the southern side of El Centro Avenue and provide access to the majority of the lots in the proposed project. The two lots on the southern parcel would be accessed via a private drive extending east from Lassen Street. Clementina Circle would intersect El Centro Avenue in two places. The western intersection would be opposite Via La Paz, and the eastern intersection would be located just east of the existing residential driveway that would be demolished as part of the proposed project.

The Traffic Impact Study for the proposed project indicates that on-site circulation would be expected to operate acceptably. Furthermore, the Clementina Circle approaches to El Centro Avenue would be stop-controlled, and crosswalks would be provided on the southern legs of both intersections. The proposed project would also be required to comply with City of Napa Standard Drawing S-25, which specifies vegetation height requirements within sight vision triangles. Thus, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

[124] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.2-4. December 1.

d) Emergency Access

Would the project: Result in inadequate emergency access?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address whether future development associated with the implementation of the 2020 General Plan would result in inadequate emergency access. However, the Prior FEIR identified policies within the 2020 General Plan related to reducing impacts on emergency access within Chapter 8, Health and Safety, on emergency preparedness and response, including enhancing emergency response plans and identifying feasible evacuation routes.

Proposed Project Analysis and Conclusion

Emergency vehicles would continue to have access to roadways in the area during construction and after completion of the proposed project. The proposed project would not impede emergency access or response. The NFD and NPD have reviewed and conditionally approved the project site plans to ensure that adequate emergency vehicle access is provided. For example, the proposed project would be required to pay the Fire Impact Fees in accordance with the standard mitigation measures and conditions of approval set forth by the City. Compliance with NFD and NPD requirements would ensure impacts remain less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Transportation, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.18 Utilities and Service Systems *Would the project:*					
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less than significant impact	No	No	No	No
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	Significant and unavoidable impact	No	No	No	No
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	No	No	No	No
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	No	No	No	No

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Not Applicable	No	No	No	No

a) Water, Wastewater, and Stormwater Facilities

Would the project: 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?

Summary of 2020 General Plan FEIR

The Prior FEIR acknowledged that future development implementing the 2020 General Plan could increase the demand for services, resulting in the relocation or construction of new or expanded facilities. A summary of the potential impacts pertaining to the relocation or construction of new or expanded water, wastewater treatment, electric power, and natural gas facilities is summarized below. The 2020 General Plan EIR did not provide information on the potential for relocation or construction of new or expanded telecommunications facilities.

Water

The City provides potable water services through active connections within and outside the city limits. The Prior FEIR determined that although the City has enough potable water supply to support development associated with the implementation of the 2020 General Plan during normal conditions, future development could result in excess demand for potable water during drought years. However, this would not result in the relocation or construction of new or expanded water facilities because the Prior FEIR identified policies and implementation measures in the 2020 General Plan related to water supply and conservation, such as Policy CS-9.1 and Policy CS-9.3, which request water conservation programs and the use of reclaimed wastewater for irrigation purposes, and Policy CS-9.8, which looks to control urban development in the City's Water Service Area beyond the RUL. Furthermore, the Prior FEIR identified that the City's SWP entitlements would increase to 18,000 acre-feet per year (AFY) from the existing SWP entitlement of 6,600 AFY. Additionally, other municipalities have already reached, or will reach, their full entitlement before the City. As such, the reduction in deliveries to other municipalities would result in the City receiving more water in dry years. Therefore, the Prior

FEIR concluded that implementation of the 2020 General Plan would not require the relocation or expansion of the City's and the SWP's facilities.[125]

Wastewater

The Napa Sanitation District (NapaSan) provides wastewater services to the City of Napa and surrounding areas and consists of the Imola and Soscol Water Recycling Facility (SWRF) treatment plants. The Imola facility and SWRF were deemed to have inadequate treatment capacity, with temporary river disposal and pond storage systems utilized for the maximum allowable capacity. The Prior FEIR determined that, although phases from the Wastewater Master Plan developed by NapaSan in 1990 were implemented to address capacity issues and meet current and increasing demands through expanding and upgrading existing facilities, along with 2020 General Plan policies reducing demand through conservation efforts, the Prior FEIR concluded that implementation of the 2020 General Plan would further exacerbate existing demands and would result in NapaSan needing to expand its wastewater treatment facilities to provide adequate services. However, 2020 General Plan Policy CS-10.3 requires new developments to obtain a "will-serve" letter from NapaSan prior to project approval when the NapaSan wastewater treatment facilities are deemed to have inadequate capacity. Therefore, the Prior FEIR concluded that implementation of the 2020 General Plan would have a less than significant impact related to the relocation or construction of new or expanded wastewater treatment facilities.[126]

Electric Power and Natural Gas

As of the time that the Prior FEIR was prepared, PG&E provided electric and natural gas services to the City, consisting of four electric substations and two major gas systems. Although the Prior FEIR did not directly address whether future development associated with the implementation of the 2020 General Plan would result in the relocation or construction of new or expanded facilities, the Prior FEIR indicated that future development would result in an increased demand for natural gas and electrical services. However, the increase in services would be minimal as policies and implementation measures in the 2020 General Plan, such as Policy NR-5.3, which promotes energy conservation improvement programs to reduce the demand from power-generating facilities, and Policy Resolution No. 27, which requires the construction and design of future projects to incorporate energy conservation measures, would reduce potential impacts. Furthermore, the Prior FEIR stated that no new major electrical infrastructure would be constructed as most of the future development under the 2020 General Plan would be within the RUL, which is already highly urbanized and is in PG&E's service area. Minor distribution lines would be constructed to serve those new areas intended to be encompassed within the RUL with the implementation of the 2020 General Plan. However, the Prior FEIR concluded that these would be ministerial and future development from the

[125] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-7 – 3.4-12. December 1.

[126] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-13 – 3.4-15. December 1.

2020 General Plan would not result in the relocation or construction of new or expanded major electrical facilities.[127]

Proposed Project Analysis and Conclusion

Water

The proposed project's water needs would be met by the City. The proposed project would connect to the existing distribution main on El Centro Avenue and Lassen Street and would include a new distribution pipeline within the project site. The proposed project would not require additional water infrastructure to be built or expanded. As described in Impact 4.14(a), the proposed project is estimated to result in approximately 189 new residents. Using UWMP methodology, the proposed project is expected to generate a water demand of 24,948 gallons per day (GPD), or approximately 27.95 AFY.[128] According to the UWMP, the total water supply for the City is 14,092 AFY.[129] The proposed project's additional demand constitutes approximately 0.2 percent of the total water demand, and as the proposed project would be consistent with existing General Plan land use designation, its water demand was already accounted for in the UWMP. Therefore, the proposed project does not require and would not result in the construction of new water facilities or expansion of existing facilities. Impacts would be less than significant.

Wastewater

NapaSan is responsible for wastewater collection, treatment, and disposal in the City. The proposed project would connect to an existing 18-inch sanitary sewer line in El Centro Avenue for the northern portion of the project site and a 10-inch sanitary sewer line in Lassen Street for the southern portion of the project site. The proposed project would not require additional wastewater infrastructure to be built or expanded. Wastewater from the proposed project would flow to the SWRF. The SWRF has a treatment capacity of 15.4 million GPD and currently treats an average of 12 million GPD. Thus, the SWRF has the capacity to treat the additional wastewater generated by the proposed project.[130] The proposed project is in accordance with the land use and zoning in the General Plan and would thus constitute planned growth for the City. Therefore, the proposed project would not require the construction or relocation of new or expanded wastewater facilities. Impacts would be less than significant.

Stormwater

The proposed project would include the installation of stormwater management systems on-site. Additionally, the proposed project would connect to existing 36-inch storm drain lines on El Centro Avenue and Lassen Street. As discussed in Section 2.7, Geology and Soils, and Section 2.10, Hydrology and Water Quality, the proposed project would also prepare and implement a SWPPP and BMPs, which would ensure that impacts related to stormwater would be less than significant.

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[127] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-16 – 3.4-17. December 1.

[128] 189 residents * 132 gal/pp/day = 24,948 gallons per day

[129] City of Napa. 2022. 2020 Urban Water Management Plan. January.

[130] Napa Sanitation District (NapaSan). Soscol Water Recycling Facility (SWRF). Website: https://napasan.com/178/Soscol-Water-Recycling-Facility. Accessed May 7, 2025.

Therefore, the proposed project would not substantially increase stormwater drainage such that new or expanded facilities or relocation would be required. Impacts would be less than significant.

Electric Power and Telecommunication Facilities

There are telecommunications companies who operate and maintain transmission and distribution infrastructure in the project vicinity and currently serve the existing uses on the project site. Impacts associated with the proposed project's electricity demand are discussed in Section 2.6, Energy.

The site is currently served by telecommunications infrastructure and the proposed project would connect to existing infrastructure. Therefore, the proposed project would not require the installation or development of new or improved telecommunication facilities such that environmental impacts would occur. Impacts would be less than significant.

Conclusion

As noted above, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Water Supply

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

Summary of 2020 General Plan FEIR

As previously mentioned, the Prior FEIR determined that future development implementing the 2020 General Plan would exceed the demand for potable water during drought years with a current deficit of 4,200 AFY. The Prior FEIR outlined a variety of options to meet potable water service demands during drought years from the City's Draft Water System Optimization and Master Plan. One option included increasing the City's full SWP entitlement from 6,600 AFY to 18,000 AFY in the year 2021, which would further exceed the requested SWP entitlement as other municipalities' full SWP entitlement would be reached before the City's. Hence, the City would obtain excess amounts of water during dry years due to the SWP's reduction in deliveries. Other options included obtaining potable water from the SWP Drought Water Bank Program, the proposed American Basin Conjunctive Use Project, the State Water Project Supplemental Water Purchase Program, and Interruptible Entitlements within the Delta, which is available for extraction during most years. Furthermore, the Prior FEIR highlighted policies within the 2020 General Plan that emphasize water conservation efforts, including the use of reclaimed water for irrigation purposes. Despite these available options and policies, the Prior FEIR identified that the City requested the State modify its entitlements for the North Bay Aqueduct, which would enable the City to meet drought water demands. However, at the time the Prior FEIR was prepared, the revision of the North Bay Aqueduct entitlements had not yet been approved and the City had not pursued the other options previously

mentioned. As such, the Prior FEIR concluded that implementation of the 2020 General Plan would have a significant impact pertaining to sufficient water supplies. Therefore, the 2020 General Plan includes Policy CS-9.3, which limits ministerial and discretionary project approval until an applicant obtains approval from the Public Works Department stating that the City would be able to provide potable water to the City during drought years with the implementation of the project. The Prior FEIR determined that while this policy would reduce potential impacts related to potable water supply, the 2020 General Plan would result in a significant and unavoidable impact because several factors outside of the City's control impact drought-year water supply.[131]

Proposed Project Analysis and Conclusion

The City relies on a combination of imported water, local surface water, and a small amount of recycled water to meet its water needs. The City works together with the SWP to ensure a safe and reliable water supply that would continue to serve the community in periods of drought and shortage. The City's receives 35 percent of its annual supply (5,170 AFY) from its rights to Lake Hennessey, 61 percent (8,922 AFY) from the SWP, and 4 percent (568 AFY) of recycled water from NapaSan.[132] The comparison between the supply and demand for projected years between 2025 and 2045 is shown in Table 21.

Table 21: City of Napa Water Supply and Demand Assessment

Supply and Demand Assessment		2025	2030	2035	2040	2045	
Normal Year Supply and Demand Comparison							
Supply totals		31,737		31,997	28,907	28,907	28,907
Demand totals		15,065		15,750	16,100	16,425	16,650
Difference		16,672		16,247	12,807	12,482	12,257
Single Dry Year Supply and Demand Comparison							
Supply totals		17,702	17,962	16,275	16,275	16,275	
Demand totals		15,065	15,750	16,100	16,425	16,650	
Difference		2,637	2,212	175	**-150**	**-375**	
Multiple Dry Year Supply and Demand Comparison							
First Year	Supply totals	20,941	21,201	19,191	19,191	19,191	
	Demand totals	15,065	15,750	16,100	16,425	16,650	
	Difference	5,876	5,451	3,091	2,766	2,541	
Second Year	Supply totals	15,065	16,326	14,803	14,803	14,803	
	Demand totals	15,065	15,750	16,100	16,425	16,650	

[131] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-7 – 3.4-12. December 1.

[132] City of Napa. 2022. 2020 Urban Water Management Plan. January.

Supply and Demand Assessment		2025	2030	2035	2040	2045
	Difference	1,001	576	**-1,297**	**-1,622**	**-1,847**
Third Year	Supply totals	16,066	16,326	14,803	14,803	14,803
	Demand totals	15,065	15,70,	16,100	16,425	16,650
	Difference	1,001	576	**-1,297**	**-1,622**	**-1,847**
Fourth Year	Supply totals	16,066	16,326	14,803	14,803	14,803
	Demand totals	15,065	15,70,	16,100	16,425	16,650
	Difference	1,001	576	**-1,297**	**-1,622**	**-1,847**
Fifth Year	Supply totals	16,066	16,326	14,803	14,803	14,803
	Demand totals	15,065	15,750	16,100	16,425	16,650
	Difference	1,001	576	**-1,297**	**-1,622**	**-1,847**

Notes:
Volumes are in acre-feet.
Bold text indicates water demand exceeding available water supply.

Source: City of Napa. 2020 UWMP. 2022.

Based on a conservative estimate that does not account for the current water demand of the project site, the proposed project would generate a water demand of 24,948 GPD, or approximately 27.95 AFY, which is approximately 0.2 percent of the total demand. In order to ensure the City would have sufficient water supplies available, the Prior FEIR states that the 2020 General Plan seeks to control urban development in the City's Water Service Area beyond the RUL. As such infill development consistent with the uses planned for in the 2020 General Plan would ensure the City meets this goal. Development of uses consistent with those anticipated by the 2020 General Plan ensures that water supply projections detailed in the 2020 UWMP remain accurate. The proposed project is consistent with the project site's existing zoning and General land use designation; therefore, the demand was already evaluated in the 2020 General Plan Final EIR and is accounted for in the current UWMP. Thus, there is water supply available for the City, and the water supply demanded by the proposed project can be accommodated by the existing supply.

The UWMP describes the City's plans to meet full service demands under all foreseeable hydrologic conditions, meeting a single dry year and multiple dry year eligibility. Table 22 shows the comparison between the supply and demand for projected years between 2025 and 2045 for different hydrologic scenarios. City demands are projected to be met with imported water and recycled water supplies with available SWP surplus supplies. As described above, development consistent with the uses anticipated by the Prior FEIR ensures that the demand projections contained in the 2020 UWMP remain accurate. As the proposed project is consistent with the site's existing zoning and land use designation, and as such consistent with the uses contemplated in the Prior FEIR, the proposed project's water demand would be accommodated in multiple dry year scenarios. Therefore, the

proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Wastewater Treatment Capacity

Would the project: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Summary of 2020 General Plan FEIR

As previously mentioned, the Prior FEIR determined that the Imola wastewater treatment plant and SWRF had inadequate wastewater treatment capacity, and future development implementing the 2020 General Plan would further strain existing wastewater treatment services. The Prior FEIR identified that the NapaSan Wastewater Treatment Plan had begun to implement strategies to expand and improve wastewater treatment, such as constructing and upgrading existing facilities. The Prior FEIR determined that although these upgrades would be able to serve a population of 82,000 individuals, which is above the 2020 General Plan's projected population of 81,140, anticipating full development within the RUL, both the Imola facility and SWRF under existing conditions would be unable to adequately provide services to new developments associated with the implementation of the 2020 General Plan. However, 2020 General Plan Policy CS-10.3 requires new developments to obtain a "will-serve" letter from NapaSan prior to project approval when the NapaSan wastewater treatment facilities are deemed to have inadequate capacity. Therefore, the Prior FEIR concluded that new developments from the implementation of the 2020 General Plan would result in a less than significant impact on the wastewater treatment provider with mitigation.[133]

Proposed Project Analysis and Conclusion

NapaSan maintains and operates the wastewater collection and treatment system of the City, including the project site. The proposed project would connect to the existing 18-inch sanitary sewer line in El Centro Avenue and an existing 10-inch sanitary sewer line in Lassen Street. The SWRF has a permitted dry weather treatment capacity of 15.4 million GPD and treats approximately 12 million gallons of wastewater per day.[134] According to the Prior FEIR, improvements to the NapaSan wastewater treatment infrastructure would allow NapaSan to serve a population of approximately 82,000 persons. As discussed in Section 4.14, Population and Housing, the current population of the City is approximately 77,492, while the proposed project includes the development of 51 single-family homes and would contribute approximately 189 new residents. As such, the growth induced by the proposed project would be within the serviceable population projected by the Prior FEIR for NapaSan's wastewater treatment capacity and would contribute an incremental increase in wastewater generation as compared to current conditions. However, the development of the

[133] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-13. December 1.

[134] Napa Sanitation District (NapaSan). Soscol Water Recycling Facility (SWRF). Website: https://napasan.com/178/Soscol-Water-Recycling-Facility. Accessed May 7, 2025.

proposed project is consistent with the land use anticipated in the General Plan, and wastewater generated by the proposed project is consistent with the service needs anticipated by the General Plan and would not require the expansion of treatment facilities or the construction of new facilities. Therefore, the proposed project would not exceed wastewater treatment requirements. Impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

d) Solid Waste Reduction Goals Consistency

Would the project: Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Summary of 2020 General Plan FEIR

The Prior FEIR identified that solid waste within the City is processed at the Napa County Solid Waste Transfer Station consisting of a capacity of 520 tons per day, before being shipped to Washington State to be deposited at the Roosevelt Regional Landfill. The Prior FEIR acknowledged that development implementing the 2020 General Plan would increase existing solid waste disposal requirements. However, the Roosevelt Regional Landfill had adequate capacity to serve any anticipated future development associated with the 2020 General Plan. Furthermore, the Prior FEIR determined that the 2020 General Plan contains policies and implementation programs which would reduce potential impacts, such as Policies CS-12.1 and CS-12.2, which call for waste reduction and recycling public awareness programs and continued monitoring of the City's SRRE. The Prior FEIR further identified that meeting standards within Policy Resolution No. 27, which requires new projects to submit a source reduction plan, would reduce potential impacts. As such, the Prior FEIR concluded that future development associated with the 2020 General Plan would not generate solid waste in excess of existing standards or local infrastructure.[135]

Proposed Project Analysis and Conclusion

Solid waste collection and recycling services for the City are provided by NRWS. NRWS collects solid waste for the City of Napa and southern unincorporated Napa County. Solid waste is taken to the Delvin Road Recycling and Transfer Facility, where it is loaded into trucks and sent to the Potrero Hill Landfill.

The California Department of Resources Recycling and Recovery (CalRecycle) provides a solid waste generation factor by residential projects. Using the generation rate of approximately 12.23 pounds (lbs) per household per day for residential development, the proposed project would generate approximately 893 lbs per day of solid waste, or approximately 0.45 tons, representing a nominal

[135] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-16. December 1.

amount of the Potrero Landfill's daily capacity of 4,330 tons, shown in Table 22.[136] Therefore, the existing landfills have sufficient capacity to serve the proposed project and solid waste generated during construction and operation would represent a negligible increase compared to the daily permitted tonnage at landfills. Additionally, the proposed project would also include recycling programs to reduce solid waste and comply with all applicable regulations for solid waste. Thus, impacts would be less than significant, and no mitigation is required. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Table 22: Napa County Landfill Availability

Landfill	Landfill Address	Closure Date	Maximum Daily Permitted Throughput (tons per day)	Maximum Permitted Capacity (cubic yards)	Remaining Capacity (cubic yards)
Potrero Hills Landfill	3675 Potrero Hills Lane, Suisun City, CA 94585	2/14/2048	4,330	83,100,000	13,872,000
Source: California Department of Resources Recycling and Recovery (CalRecycle). 2025.					

e) Solid Waste Regulations Consistency

Would the project: Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address impacts related to compliance with federal, State, or local solid waste management and reduction statutes. However, as previously mentioned, the Prior FEIR identified policies and implementation measures within the 2020 General Plan, such as Policy CS-12.1, calling for provisions in waste reduction and recycling public awareness programs, and Policy CS-12.2, indicating the City will continue to monitor its SRRE. Additionally, new developments would be required to abide by Policy Resolution No. 27, which requires the submittal of a source reduction plan consistent with the City's SRRE. Although not directly stated, the Prior FEIR outlined policies and implementation measures from the 2020 General Plan that would be consistent with federal, State, and local solid waste management and reduction statutes.[137]

[136] California Department of Resources Recycling and Recovery (CalRecycle). 2025. SWIS Facility/Site Activity Details. Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1194?siteID=3591. Accessed May 7, 2025.

[137] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 3.4-16. December 1.

Proposed Project Analysis and Conclusion

The proposed development would be required to comply with applicable federal, State, and local regulations related to solid waste, such as Napa Municipal Code Chapters 5.60 (Municipal Solid Waste, Recyclable Materials and Compost Collection and Disposal) and 5.61 (Mandatory Municipal Solid Waste, Recyclable Material and Compostables Disposal Reduction); Resolution R2012 100, the City's disposal reduction policy; and Policy Resolution No. 27, which require submittal of a source reduction plan consistent with the SRRE of the City's General Plan. Therefore, a portion of solid waste would be diverted from landfill through recycling, composting, and other methods in compliance with federal, State, and local management and reduction statutes. Therefore, the proposed project would not violate applicable federal, State, and local statutes and regulations related to solid waste and impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Conclusion

With regard to Utilities and Service Systems, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.19 Wildfire *If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the project:*					
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less than significant impact	No	No	No	No
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?	Not Applicable	No	No	No	No
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?	Not Applicable	No	No	No	No
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?	Not Applicable	No	No	No	No

Setting

The California Department of Forestry and Fire Protection (CAL FIRE) prepares maps of Fire Hazard Severity Zones (FHSZ) that are used to develop recommendations planning. State Responsibility Areas (SRAs) are areas of the State where 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 not located in a designated FHSZ in an SRA. The project site is not located in a designated Very High FHSZ (VHFHSZ) in a Local Responsibility Area (LRA).[138] The closest FHSZ to the project site is a Moderate FHSZ located in an LRA approximately 1.04 miles west of the project site. The closest VHFHSZ to the project is located in an LRA approximately 2.5 miles east of the project site.

a) Emergency Response/Evacuation Plan Consistency

Would the project: If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, substantially impair an adopted emergency response plan or emergency evacuation plan?

Summary of 2020 General Plan FEIR

The Prior FEIR identified policies within the 2020 General Plan that would reduce impacts pertaining to impairing emergency response or evacuation plans within Chapter 8, Health and Safety, which include maintaining and enhancing emergency response plans, identifying suitable evacuation routes, and conducting citywide rehearsals of procedures established within the Disaster Management Plan. Furthermore, Policy HS-8 of the 2020 General Plan aims for the City to be a community informed and educated about hazards and safety procedures that participates in County emergency response efforts.

Proposed Project Analysis and Conclusion

The proposed project is not located within an area designated as an FHSZ in an LRA or SRA, nor is it near one, as the closest FHSZ is approximately 1.04 miles to the west. The City does not currently have designated evacuation routes, but the proposed project is approximately 0.22 mile east of SR-29, which is one of the City's crucial corridors for circulation in the event of an emergency, according to the City's General Plan.[139] As discussed under Impact 4.9(f), the proposed project would not require modification of existing roadways in a way that would hinder emergency access or evacuation during and after construction, such as permanent road closures or lane narrowing. Project site access and internal roadways would be required to meet the width for emergency vehicles requirements of

[138] California Department of Forestry and Fire Protection (CAL FIRE). Napa County FHSZ Maps. Website: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/. Accessed May 7, 2025.

[139] City of Napa. 1998. Envision Napa 2020 General Plan. December 1.

Napa Municipal Code Section 16.36.030.[140] Furthermore, the project site is flat and is not considered a high severity zone for wildfire.

The proposed project would not impair the implementation of, or physically interfere with, adopted emergency response plan or emergency evacuation plan and would therefore have a less than significant impact. Therefore, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Expose Project Occupants to Pollutant Concentrations from Wildfire

Would the project: If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, 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?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address impacts related to exposing project occupants to primary wildland fire hazards or uncontrolled wildfires, as wildfire impacts were not adopted in the CEQA Guidelines Appendix G until December 2018. However, the Prior FEIR acknowledged that implementation of the 2020 General Plan could result in development within the wildland urban interface, consisting of wildfire hazards, including complex topography and dense natural vegetation. The Prior FEIR outlined Policy Resolution No. 27, which contains measures to reduce and avoid impacts in areas that are highly susceptible to wildland fires, such as establishing fuel breaks, implementing defensible space standards, and ensuring that projects have sufficient on-site water supply. In addition, Policy HS-5 calls to reduce the risk of life and property from wildland fires.[141] As such, the Prior FEIR contained measures and policies that address impacts related to exposing project occupants to wildfire-susceptible areas with hazards that exacerbate wildfire risk.

Proposed Project Analysis and Conclusion

The proposed project is not located within an area designated as an FHSZ in an LRA or SRA, nor is it near one, as the closest FHSZ is approximately 1.04 miles to the west. The project site is relatively flat and would not, therefore, exacerbate wildfire risks due to the development on a steep slope.

The Bay Area Air District monitors air quality data, including wind speeds, and publishes data on its website, which includes the City. In 2022, the City recorded an average wind speed of 4 to 9 mph with

[140] City of Napa. 2024. Napa Municipal Code. June. Website: https://ecode360.com/43395884#43395884. Accessed May 7, 2025.

[141] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 2-11. December 1.

gusts ranging from 24 to 31 mph.[142] Therefore the project site would be expected to experience similar wind speed conditions and would not be susceptible to significantly high wind speeds that could exacerbate risk of spreading wildfires. Furthermore, the project site has not previously experienced a wildfire. Because the project site is not located in or near an area of steep terrain, is not located in or near a historical wildfire burn, and does not experience frequent high winds, the project site would not be likely to exacerbate wildfire risk. Thus, impacts would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Infrastructure that Exacerbates Fire Risk

Would the project: If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, 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?

Summary of 2020 General Plan FEIR

The Prior FEIR recognized that expansion into the wildland urban interface due to the implementation of the 2020 General Plan could build in areas susceptible to wildland fires. As previously mentioned, the Prior FEIR indicated that future development from the implementation of the 2020 General Plan would be required to abide by Policy Resolution No. 27, which requires the installation of fuel breaks and on-site water supply, along with establishing defensible space around newly developed structures within the wildland urban interface. However, the 2020 General Plan did not address whether the installation of the associated infrastructure would exacerbate fire risk or impacts to the environment, as this environmental analysis question was not adopted into CEQA Guidelines until December 2018. Nevertheless, the Prior FEIR mentioned Policy HS-5 from the 2020 General Plan, which aims to reduce the risk of life and property from wildland fires.[143]

Proposed Project Analysis and Conclusion

The proposed project is not located within an area designated as an FHSZ in an LRA or SRA, nor is it near one, as the closest FHSZ is approximately 1.04 miles to the west. Furthermore, the proposed project is in an urbanized area and is surrounded by urban development that does not contain dense, unmanaged open space or vegetation that would represent a fire hazard that would require fuel breaks. Therefore, the proposed project would not require the installation or maintenance of associated infrastructure. No impact would occur. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project

[142] Bay Area Air Quality Management District (Bay Area Air District). 2022. Meteorology. Website: https://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data/#/met?date=2022-01-01&id=203&view=monthly&style=table. Accessed May 7, 2025.

[143] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 4-8. December 1.

would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

d) Flooding and Landslide Hazards Due To Post-fire Slope Instability/Drainage Changes

Would the project: If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones ,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?

Summary of 2020 General Plan FEIR

The Prior FEIR identified that development with the implementation of the 2020 General Plan could encroach into areas containing wildfire hazards, such as those having complex topography and dense natural vegetation. The Prior FEIR indicated that future developments would be required to abide by Policy Resolution No. 27. However, this measure only provides mitigation to reduce or avoid primary wildland fires, such as establishing fuel breaks and on-site water supply features, and does not address secondary wildland fire hazards. Although the Prior FEIR identified areas susceptible to landslides and acknowledged that landslide hazards could be exacerbated from the removal of vegetation, the Prior FEIR identified policies and implementation programs to minimize the risk of landslides and drainage changes, which address primary landslide hazards and project-induced drainage changes. However, the Prior FEIR did not discuss wildfire-induced landslides.[144]

Proposed Project Analysis and Conclusion

The project site is flat. Additionally, the proposed project is not located within an area designated as an FHSZ in an LRA or SRA, nor is it near one, as the closest FHSZ is approximately 1.04 miles to the west. Impacts related to landslides and flooding were discussed in Section 2.7, Geology and Soils, and Section 2.10, Hydrology and Water Quality. The proposed project would be required to implement the suggested recommendations from the project-specific Geotechnical Report to address the site-specific conditions and would also be required to implement the BMPs from the SWPPP, as well as a bioretention system to address impacts related to flooding during construction and operation, respectively. Therefore, the proposed project would not expose people or structures to post-fire slope instability or drainage and runoff change. The impact would be less than significant. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

[144] City of Napa. 1998. City of Napa General Plan Final Environmental Impact Report. Page 4-8. December 1.

Conclusion

With regard to Wildfire, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

Environmental Issues	Prior FEIR Determination	CEQA Section 15183(b) Criteria			
		Effect Peculiar to Project or Site?	New Significant Effect?	New Significant Off-site, Cumulative Impact?	New Information, More Severe Adverse Impact?
4.20 Mandatory Findings of Significance					
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	Less than significant impact	Yes	No	No	No
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)?	Significant and unavoidable impact	No	No	No	No
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	Less than significant impact	No	No	No	No

a) Potential Degradation to Environment and Examples of California History or Prehistory

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?**

Summary of 2020 General Plan FEIR

Section 3.5, Cultural Resources, in the Prior FEIR highlighted policies and implementation programs to prevent the elimination of important examples of the State's prehistory in Policies HR-6.1 and HR-6.2; historical structures in Policies HR-1.2, HR-1.3, HR-1.6, and HR-1.10; and historical property districts in Policies LU-1.1, LU-1.4, and LU-4.1. Implementation Programs HR-1.G and HR-1.M guide future development to prevent the alteration of historical structures and areas, and Implementation Program HR-1.N calls for programs to encourage preservation. In addition, the City calls for the identification of significant cultural and historical resources to ensure preservation at the local level in Policy HR-1.1 and Policies HR 2.1 through HR-2.6. Furthermore, the City would require new developments to enhance historic areas under Policy HR-1.20. Although the Prior FEIR determined that the policies and implementation measures would reduce impacts to historical structures and resources, the Prior FEIR indicated that the disturbance to prehistoric and archaeological sites could still occur from the results of ground-disturbing activities. However, future development would be required to comply with standard mitigation requirements detailed in Napa Policy Resolution No. 27. Therefore, the Prior FEIR concluded that impacts related to potential impacts to important examples of the major periods of California history or prehistory would be less than significant.

Proposed Project Analysis and Conclusion

As noted in Section 2.4, Biological Resources, and consistent with Section 15183's mandate to limit environmental review to those issues peculiar to the project or parcel, potential impacts to biological resources, including mandatory findings of significance identified above, will be evaluated in a project-specific analysis to identify any potential impacts along with any available mitigation.

Subsurface construction activities have the potential to destroy or damage previously undiscovered historical or archaeological resources, as well as human remains. Historic resources can include wood, stone, foundations, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, and other refuse. Archaeological resources can include but are not limited to stone, bone, wood, or shell artifacts or features, including hearths and structural elements. Damage or destruction of these resources would be a potentially significant impact. Implementation of IM CUL-1 through IM CUL-3, pursuant to 2020 General Plan Policies HR-6.1, HR-6.2, and HR-6.3, would ensure that this potential impact is reduced to a less than significant level.

In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Sections 5097.94 and 5097.98 must be followed. IM CUL-4 further specifies the procedures to follow in the event human remains are uncovered. Along with compliance with required guidelines and statutes, implementation of IM CUL-3, pursuant to 2020 General Plan Policies HR-6.1, HR-6.2, and HR-6.3, would reduce potential impacts on human remains to a less than significant level. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

b) Cumulatively Considerable Impacts

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)?

Summary of 2020 General Plan FEIR

The Prior FEIR analyzed cumulatively considerable impacts with implementation of the 2020 General Plan for each environmental topic. The geographic scope for the cumulative analysis generally encompassed Napa County, but it depended on the environmental topic being analyzed. The Prior FEIR determined that implementation of the 2020 General Plan would result in a significant and unavoidable cumulative impact related to wastewater treatment capacity and water supply during drought years. The Prior FEIR determined that potential cumulative impacts related to land use, transportation, cultural resources, visual quality, biological resources, geology, soils, and seismicity, hydrology and water quality, air quality, noise, and public health would be less than significant.

Proposed Project Analysis and Conclusion

The proposed project is entirely surrounded by existing development. There are no proposed cumulative developments adjacent to or in the immediate vicinity of the proposed project. Furthermore, all cumulative projects would be designed and built in accordance with City of Napa standard conditions of approval and regulations as well as complying with State and federal regulations.

As noted in Section 2.4, Biological Resources, and consistent with Section 15183's mandate to limit environmental review to those issues peculiar to the project or parcel, potential impacts to biological resources, including mandatory findings of significance identified above, will be evaluated in a project-specific analysis to identify any potential impacts along with any available mitigation.

The proposed project would not result in any potentially significant project-level impacts with the implementation of all applicable policies, regulations, conditions of approval, and implementation measures, including IM CUL-1 through IM CUL-4 and IM GEO-1. Cumulatively, the proposed project would not result in any significant impacts that would substantially combine with impacts of other

current or probably future impacts. Thus, the proposed project, in conjunction with other future development projects, would not result in any cumulatively considerable impacts. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

c) Adverse Effects on Human Beings?

Does the project: Have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Summary of 2020 General Plan FEIR

The Prior FEIR did not directly address impacts pertaining to direct or indirect effects on human beings. However, significant environmental impacts on human beings can be associated with the environmental topics of air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and transportation. The Prior FEIR concluded that the goals, policies, and implementation programs in the 2020 General Plan would reduce these significant environmental impacts to less than significant levels. Therefore, the Prior FEIR indicated that implementation of the 2020 General Plan would not result in direct or indirect substantial adverse effects on human beings, and impacts would be less than significant.

Proposed Project Analysis and Conclusion

The above sections of this Consistency Checklist reviewed the proposed project's potential impacts related to air quality, cultural resources, and geology, among other environmental issue areas. As concluded in these previous discussions, the proposed project would result in less than significant impacts with implementation of IM CUL-1 through IM CUL-4 and IM GEO-1. Therefore, with implementation of the specified implementation measures pursuant to General Plan policies and Policy Resolution No. 27, standard BMPs, and conditions of approval, the proposed project would cause less than significant adverse effects on human beings. Therefore, the proposed project does not have any project-specific significant effects which are peculiar to the project or its site. The proposed project would not result in a new or more severe adverse impact that was not previously identified in the Prior FEIR.

Applicable 2020 General Plan FEIR Mitigation Measures

None required.

Project-specific Implementation Measures

Implement IM CUL-1 through IM CUL-4 and IM GEO-1.

Conclusion

With regard to Mandatory Findings of Significance, potential impacts related to biological resources will be evaluated in a project-specific analysis. Except with respect to biological resources, the

proposed project does not have any project-specific significant effects which are peculiar to the project or its site. There is no new information of substantial importance, change in the proposed project, or change in the circumstances under which it would be undertaken identifying new significant effects, nor is there a substantial increase in the severity of previously identified impacts. The conclusions from the Prior FEIR remain unchanged when considering the implementation of the proposed project.

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Appendix A:

City of Napa Policy Resolution No. 27

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POLICY RESOLUTION NO. 27

A POLICY RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NAPA, STATE OF CALIFORNIA, AMENDING STANDARD MITIGATION MEASURES AND CONDITIONS OF APPROVAL FOR ALL DEVELOPMENT PROJECTS WITHIN THE CITY OF NAPA

WHEREAS, Section 15.50.010 of the Napa Municipal Code provides that the City Council by resolution may establish standard mitigation measures and conditions of approval which, upon adoption, shall be deemed imposed on all applicable development projects within the City of Napa; and

WHEREAS, in 1992 the City Council adopted such mitigation measures and conditions and has from time to time revised the same as deemed advised.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Napa, State of California, that Policy Resolution 27, as initially adopted on August 4, 1992, is hereby amended as follows:

Section 1. The City Council does hereby adopt the mitigation measures set forth on the attached Attachment A, as the City of Napa Standard Mitigation Measures. Unless otherwise authorized by the City for a specific project, these mitigation measures are (a) hereby imposed on every development project approved by the City of Napa for which an Environmental Impact Report is prepared; and (b) shall be included in project plans or proposals made by or agreed to by an applicant before a Negative Declaration may be released for public review. Any or all of these mitigation measures may be imposed as conditions of approval of a specific project, which is exempt from the California Environmental Quality Act (CEQA).

Section 2. The City Council does hereby adopt the standard conditions of approval set forth on Attachment B as the City of Napa Standard Project Conditions. Unless otherwise provided in a specific project approval, these conditions are hereby imposed on each applicable development project hereafter approved or deemed approved in the City of Napa.

I HEREBY CERTIFY that the foregoing resolution was duly and regularly adopted by the City Council of the City of Napa held on the 3rd day of December, 2002 by the following roll call vote:

AYES: Crawford, Busenbark, Martin, Techel, and Henderson

NOES: None

ABSENT: None

ATTEST: Pamela Nogleas
CITY CLERK OF THE CITY OF NAPA

Editor's Notes: Originally adopted 08/04/92; amended 09/20/94, 09/19/95, 11/21/95, 10/5/99,10/16/01 and 12/3/02.

CITY OF NAPA
Policy Resolution 27

Attachment A
Standard Mitigation Measures

I. AESTHETICS

1. All new lighting on private property shall be designed to eliminate direct light spilling onto adjacent residential properties.

2. Low-level lighting shall be utilized in any parking area(s) as opposed to elevated high-intensity light standards.

3. All new utilities shall be placed underground.

4. The Developer shall comply with the following:

   (a) The plans submitted for the project improvements or building permit, whichever comes first, shall include a final landscape and irrigation plan designed and signed by a licensed landscape architect or landscape contractor. The final landscape plans shall specify that (1) all plant materials be certified by the Napa County Agricultural Commissioner inspection program for freedom from the glassy winged sharpshooter or other pests identified by the Agricultural Commissioner and (2) the Agricultural Commissioner's Office shall be notified of all impending deliveries of live plants with points of origin outside of Napa County so that inspection can be arranged. No improvement plans shall be approved nor building permit issued until the Planning Department approves the landscape and irrigation plan. Prior to occupancy, the licensed professional who signed the final landscape and irrigation plan shall certify in writing to the Planning Director that he/she has inspected and approved the installation of landscaping and irrigation and has found them to be consistent with the approved plans including, but not limited to, the certifications and inspections by the Agricultural Commissioner as well as that the systems are in working order. A substitution of an alternate licensed professional may be allowed by the Planning Director upon a showing of good cause.

   (b) Prior to occupancy, Developer shall execute and record the City's Landscape Maintenance Agreement. (Forms are available from the Planning Department.)

5. The Developer shall secure separate architectural review approval for any signage for the project.

6. For properties zoned with the overlay: HS District, all grading and construction activities or modifications of the natural site features on the property including any resulting lots shall be subject to separate final design review to ensure compliance with the Hillside Development Guidelines, to limit grading and to allow the retention of existing trees and other natural features. Accurate topographical and tree location information as well as complete grading, construction or other action plans shall be presented for review. A note setting forth these requirements shall appear on any final or parcel map to provide notice to purchasers

II. AGRICULTURAL RESOURCES

None.

III. AIR QUALITY

1. Grading and construction equipment shall be shut down when not in use.

2. Construction activities shall not occur during windy periods.

3. Exposed soil surfaces shall be periodically sprinkled to retard dust; no City water shall be used for this purpose.

IV. BIOLOGICAL RESOURCES

None.

V. CULTURAL RESOURCES

If any archeological materials or objects are unearthed during project construction, all work in the vicinity shall be immediately halted until a qualified archeologist is retained by the City to evaluate the finds. Developer shall comply with all mitigation recommendations of the archeologist prior to commencing work in the vicinity of the archeological finds.

VI. GEOLOGY AND SOILS

1. All Project-related grading, trenching, backfilling, and compaction operations shall be conducted in accordance with the City of Napa Public Works Department Standard Specifications (hereinafter referred to as PWD Standard Specifications).

2. All construction activities shall meet the Uniform Building Code regulations for seismic safety (i.e., reinforcing perimeter and/or load bearing walls, bracing parapets, etc.).

3. Developer shall provide an erosion and sediment control plan and a schedule for implementation of approved measures to the Public Works Director for approval with the first improvement plans submitted for review . No grading and excavation shall be performed except in accordance with the approved plan and schedule.

4. Hydroseeding of all disturbed slopes shall be completed by October 1; Developer shall provide sufficient maintenance and irrigation of the slopes such that growth is established by November 1.

5. For all subdivision and parcel maps, the Developer shall prepare a Soils Investigation/Geotechnical Report in accordance with Section 16.36.200 of the NMC. The improvement plans shall incorporate all design and construction criteria specified in the report. The geotechnical engineer shall sign the improvement plans and approve them as conforming to their recommendations prior to parcel/final map approval. The geotechnical engineer shall also assume responsibility for inspection of the work and shall certify to the City, prior to acceptance of the work, that the work performed is adequate and complies with their recommendations. Additional soils information may be required by the Chief Building Inspector during the plan check of individual house plans in accordance with Title 15 of the NMC.

VII. HAZARDS AND HAZARDOUS MATERIALS

None.

VIII. HYDROLOGY AND WATER QUALITY

1. To insure adequate drainage control, the Developer of any project which introduces new impervious surfaces (roof, driveways, patios) which will change the rate of absorption of drainage or surface run-off shall submit a drainage and grading plan designed in accordance with Policy Resolution No. 17 and the City of Napa Public Works Department Standard Specifications to the Public Works Department for its approval.

2. If the project is in the Flood Hazard or Floodway Areas of the Napa River or its tributaries, Developer shall submit Certifications of Compliance by a registered architect or civil engineer required by NMC Chapter 17.62 to the Public Works Department at the times set forth in Chapter 17.62.

3. Side yards of each lot shall have of a minimum unobstructed width of five (5) feet. No building encroachments, door landings or mechanical equipment shall be placed in this unobstructed area without the review and approval of the Public Works Director in order to assure adequate drainage.

4. For any construction activity that results in the disturbance of five (5) acres or greater total land area, or is part of a larger common plan of development that disturbs five (5) acres or greater total land area, Developer shall file a Notice of Intent with the California Regional Water Quality Control Board ("SWRCB") prior to any grading or construction activity. In the event construction activity for the project occurs after the SWRCB has changed its General Permit for construction activity to cover disturbance(s) of one (1) acre or more, this measure shall apply to any construction activity for this project which results in the disturbance of one (1) acre or greater total land area, or is part of a larger common plan of development that disturbs one (1) acre or greater total land area.

5. The Developer shall ensure that no construction materials (e.g., cleaning fresh concrete from equipment) are conveyed into the storm drain system. The Developer shall pay for any required cleanup, testing and City administrative costs resulting from consequence of construction materials into the storm water drainage system.

6. All materials that could cause water pollution (i.e., motor oil, fuels, paints, etc.) shall be stored and used in a manner that will not cause any pollution. All discarded material and any accidental spills shall be removed and disposed of at an approved disposal site.

7. The Developer of an industrial facility shall file a Notice of Intent in accordance with the State General Permit with the State Water Resources Control Board prior to establishment of the use.

8. All construction activities shall be performed in a manner that minimizes, to the maximum extent practicable, any pollutants entering directly or indirectly the storm water system or ground water. The Developer shall pay for any required cleanup, testing and City administrative costs resulting from consequence of construction materials into the storm water drainage system.

9. Unless otherwise provided, all measures included in project approval pursuant to NMC Chapter 17.60 (CR suffix and flood evacuation) shall be installed or carried out prior to final clearance of the building permit or concurrently with the installation of site improvements in the case of a subdivision map.

10. Developer shall meet the requirements of discharging to a public storm drainage system as required to ensure compliance by the City with all state and federal laws and regulations related to storm water as stipulated in the Clean Water Act. Developer shall meet the requirements of the National Pollutant Discharge Elimination System ("NPDES") permit in effect prior to completion of project construction for storm water discharges from the municipal storm water system operated by the City of Napa. Developer shall comply with the Storm Water Pollution Mitigation Plan ("SWPMP") submitted by Developer as part of its application as (modified and) approved by the Director of Public Works.

11. Developer shall mark all new storm drain inlets with permanent markings, which state "No Dumping—Flows to River." This work shall be shown on improvement plans.

12. Developer shall record a plan for long-term private maintenance acceptable to the Director of Public Works and the City Attorney for any structural storm water pollution removal devices or treatment control BMP incorporated as part of the project. The plan shall comply with City and SWRCB requirements including, but not limited to, a detailed description of responsible parties, inspections, maintenance procedures for the detention system, including monitoring and documentation of annual report to the Public Works Department and procedures for enforcement. Appropriate easements or other arrangements satisfactory to the Public Works Director and City Attorney necessary or convenient to ensure the feasibility of the scheme and fulfillment of maintenance responsibilities shall be secured and recorded prior to approval of the final/parcel map or issuance of a building permit, whichever comes first.

IX. LAND USE AND PLANNING

1. Developer shall comply with all requirements of federal, state, and local laws and regulations applicable to project construction and issuance of building permits.

2. Developer shall comply with the monitoring/reporting check lists development pursuant to the City of Napa Resolution 96-153 regarding CEQA implementation procedures for both standard and project specific mitigation measures.

3. Developer shall notify all employees and agents of the mitigation measures and conditions applicable to the project and shall ensure compliance with such measures and conditions. Developer shall also notify all assigns and transferees of the same.

X. MINERAL RESOURCES

None.

XI. NOISE

1. Construction activities shall be limited to specific times pursuant to NMC 8.08.025 which limits construction activities to 7:00 a.m. to 7:00 p.m., Monday through Friday and 8:00 a.m. to 4:00 p.m. on weekends or legal holidays, unless a permit is first secured from the City Manager (or his/her designee) for additional hours. The ordinance further states that there will be: no start up of machines nor equipment prior to 8:00 a.m., Monday through Friday; no delivery of materials nor equipment prior to 7:30 a.m. nor past 5:00 p.m., Monday through Friday; no cleaning of machines nor equipment past 6:00 p.m., Monday through Friday; no servicing of equipment past 6:45 p.m., Monday through Friday.

2. Construction equipment must have state-of-the-art muffler systems required by current law. Muffler systems shall be properly maintained.

3. Noisy stationary construction equipment, such as compressors, shall be place away from developed areas off-site and/or provided with acoustical shielding.

4. Grading and construction equipment shall be shut down when not in use.

XII. POPULATION AND HOUSING

None.

XIII. PUBLIC SERVICES

1. Developer shall comply with all applicable requirements of the Uniform Fire Code the Fire Department and PWD Standard Specifications and the Fire Department "Standard Requirements for Commercial/Residential Projects," including, without limitation, the requirements for access, new construction, smoke detectors, fire extinguishers, fire hydrants, etc. Existing fire hydrants may be used to meet hydrant location requirements only if they meet or are changed to meet current hydrant specifications.

2. Properties having common ownership shall provide the Fire Department with a notarized copy of the recorded conditions, covenants, and restrictions agreement in a form satisfactory to the City Attorney ensuring that all components of fire protection system(s), and fire access roads will be maintained by a maintenance district, owner's association, or similar legally responsible entity.

3. All newly constructed buildings must have automatic sprinkler systems conforming to NFPA and City Standard Specifications, for which installation permit must be obtained from Fire Prevention. In multi-building complexes, or in buildings with three (3) or more stories, special monitoring conditions will be required. Existing habitable buildings, which are retained, shall be retrofitted.

4. The Developer of any project proposing a change in occupancy use classification (as defined in the Uniform Building Code Table 5A) in a building protected by automatic fire sprinklers shall have the sprinkler system evaluated by a licensed fire sprinkler contractor or fire protection engineer for compliance with National Fire Protection Association Installation Standards. A written report of the inspection findings shall be submitted to the Fire Department prior to final occupancy clearance. A permit is required from Fire Prevention for sprinkler system alterations.

5. The Developer of any project which proposes commercial occupancies shall secure approval from Fire Prevention and Building Departments prior to signing lease agreements and allowing occupancy of prospective occupants that pose possible fire and life safety hazards, or are classified, or are classified by the Uniform Building Code as an H (hazardous) occupancy.

   Examples of these types of occupancies are: Storage of flammable, combustible, explosive, or toxic materials, manufacturing processes involving the above, woodworking shops, fire rebuilding or storage, automotive repair, auto body repair and/or painting, factories where loose combustible fibers are present, semi-conductor fabrication facilities, bulk paint storage, etc.

6. Developer shall pay the required fire and paramedic fees for new development in accordance with Napa Municipal Code Chapter 15.78. Such fees shall be payable at the rate in effect at the time of payment for the unit involved. The findings set forth in the ordinance and Resolution 94-106 are incorporated herein. The City further finds that calculation of the fee pursuant to the formula set forth therein demonstrates that there is a reasonable relationship between the fees imposed and the cost of improvements attributable to this project.

XIV. RECREATION

1. Developer shall pay the required fees for each new dwelling unit in accordance with the Napa Municipal Code Chapter 15.68. Such fee shall be payable at the rate in effect at the time of payment for the unit involved. The findings set forth in the ordinance and Resolution 92-084 are incorporated herein. The City further finds that calculation of the fee due pursuant to the formula set

forth in Section 15.68.040 of the Napa Municipal Code demonstrates that there is a reasonable relationship between the fees imposed and the cost of the improvements attributable to this project.

2. Unless project approval requires only land dedication, the Developer shall pay In-lieu Park dedication fee(s) in accordance with and for the purposes of NMC Sections 16.32.040, 15.68.010 and 15.68.090 for each residential unit authorized or allowed by project approval. Such fee(s) shall be payable at the rate in effect at time of payment. The findings set forth in the ordinances and in Resolution 92-084 are incorporated herein. The City further finds that the calculation of fees in accordance with the formula set forth in NMC Section 16.32.040D demonstrates that there is a reasonable relationship between the amount of fees imposed and the costs of acquisition attributable to this project.

XV. TRANSPORTATION/TRAFFIC

1. All required public frontage and street improvements shall be designed and built in accordance with City of Napa ordinances and the PWD Standard Specifications. Unless waived by the Public Works Director, street improvements shall include curbs, gutter, sidewalk, planting, streetlights, street trees, etc.; any additional right-of-way necessary to accommodate these improvements shall be dedicated to the City.

2. During non-working hours, open trenches shall be provided with appropriate signage, flashers, and barricades approved by the Street Superintendent to warn oncoming motorists, bicyclists, and pedestrians of potential safety hazards.

3. All road surfaces shall be restored to pre-project conditions after completion of any project-related pipeline installation activities.

4. Any pedestrian access through and/or adjacent to the project site shall remain unobstructed during project construction or an alternate route established as approved by the Police Chief and Public Works Director.

5. In order to mitigate the cumulative impact of the traffic generated by the subject project on the City's arterial and collective street system, the Developer shall pay a Street Improvement Fee in accordance with Napa Municipal Code Chapter 15.84 and implementing resolutions to pay for the traffic improvements identified therein. Such fee shall be payable at the rate in effect at the time of payment. The findings set forth in the ordinance and implementing resolutions are incorporated herein. The City further finds that the calculation of the fees in accordance with the trip generation capacity of development demonstrates there is a reasonable relationship between the amount of the fees imposed and the cost of the street improvements attributable to this project.

XVI. UTILITIES AND SERVICE SYSTEMS

1. Prior to trenching within existing roadway areas, the Developer's engineer shall ascertain the location of all underground utility systems and shall design any proposed subsurface utility extensions to avoid disrupting the services of such systems.

2. Water and energy conservation measures shall be incorporated into project design and construction in accordance with applicable codes and ordinances.

3. The project shall be connected to the Napa Sanitation District for sanitary sewer service. If the subject property is presently served by individual sewage disposal systems, the septic systems, set backs, and reserve areas must be protected and maintained during cleaning, grading, construction, and after connection to the District, the existing septic tank(s) shall be properly destroyed.

4. The project shall be connected to the City of Napa water system. Any existing well must be properly protected from potential contamination. If an existing well is to be destroyed, a well-destruction permit must be obtained from the Napa County Department of Environmental Management by a licensed well driller. If an existing well is not destroyed, it must be properly protected and an approved backflow prevention device installed according to the Water District's specifications.

5. The project shall be designed and built in accordance with the PWD Standard Specification regarding the adequate conveyance of storm waters.

6. All faucets in sinks and lavatories shall be equipped with faucet aerators designed to limit the maximum flow to two and two tenths (2.2) gallons per minute.

7. All showerheads shall be of a design to limit the maximum flow to two and one-half (2.5) gallons per minute.

8. The Developer shall completely offset the water requirements of this project by complying with the retrofit requirements of Napa Municipal Code Chapter 13.09.

9. During the construction/demolition/renovation period of the project, Developer shall use the franchised garbage hauler for the service area in which the project is located to remove all wastes generated during project development, unless Developer transports project waste. If the Developer transports the project's waste, Developer must use the appropriate landfill for the service area in which the project is located.

10. Developer shall provide for the source separation of wood waste for recycling. Developer shall use the franchised garbage hauler for the service area in which located for collection of such wood waste, unless the Developer transports such wood waste to a location where wood waste is recycled.

11. The Developer of a commercial, industrial or multi-family project with common waste disposal facilities shall submit to and receive approval from the Public Works Director of a source reduction plan which meets the City's Source Reduction and Recycling Element and implementing guidelines.

12. A recycling/solid waste enclosure shall be provided in accordance with Chapter 17.102, et seq. of the NMC for all commercial, industrial and multi-family projects with common solid waste facilities.

MONITORING & REPORTING PLAN FOR STANDARD MITIGATION MEASURES*

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
I.	AESTHETICS				
1.	All new lighting on private property shall be designed to eliminate direct light spilling onto adjacent residential properties.	(a) City shall review and approve lighting plan prior to issuance of Building Permit. (b) City shall inspect installation.	Planning Public Works (Eng)	(a) Building Permit Issuance (b) Project Constr.	
2.	Low-level lighting shall be utilized in any parking area(s) as opposed to elevated high-intensity light standards.	(a) City shall review and approve lighting plan prior to issuance of Building Permit. (b) City shall inspect installation.	Planning Public Works (Eng)	(a) Building Permit Issuance (b) Project Constr.	

MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
3. All new utilities shall be placed underground.	(a) City shall review and approve plans prior to issuance of a Building Permit. (b) City shall inspect installation.	Public Works (Eng), Building Public Works (Eng)	(a) Building Permit Issuance (b) Project Constr.	
4. The Developer shall comply with the following: (a) Submit to and receive approval by the Planning Department of a Landscape and Irrigation Plan designed and signed by a licensed landscape architect or landscape contractor prior to the issuance of a Building Permit, commencement of use, or approval of a Final or Parcel Map. The final landscape plans shall specify that (1) all plant materials be certified by the Napa County Agricultural Commissioner inspection program for freedom from the glassy winged sharpshooter or other pests identified by the Agricultural Commissioner and (2) the Agricultural Commissioner's Office shall be notified of all impending deliveries of live plants with points of origin outside of Napa County so that inspection can be arranged. The plan shall conform to the City of Napa's Water Efficient Landscape Guidelines including, but not limited to, the certifications and inspections by the Agricultural Commissioner as well as that the systems are in working order. A final fencing and lighting plan may be included or submitted separately. A substitution of an alternate licensed professional may be allowed by the Planning Director upon a showing of good cause. (b) Prior to occupancy, the Developer shall execute and record the City's Landscape Maintenance Agreement.	(a) City shall review and approve plan. (b) Developer shall submit required agreement prior to occupancy.	Planning Planning	(a) Final/Parcel Map approval; Issuance of Building Permit, whichever comes first. (b) Cert. of Occupancy	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
5.	The Developer shall secure separate architectural review approval for any signage for the project.	City shall inspect for compliance.	Planning	Cert. of Occupancy	
6.	For properties zoned with the overlay: HS District, all grading and construction activities or modifications of the natural site features on the property including any resulting lots shall be subject to separate final design review to ensure compliance with the Hillside Development Guidelines, to limit grating and to allow the retention of existing trees and other natural features. Accurate topographical and tree location information as well as complete grading, construction or other action plans shall be presented for review.	(a) Developer shall receive Final Design Review approval prior to issuance of any Building Permit (b) Developer shall record with the County Recorder a Notice and Covenant of Property Restrictions	Planning Planning	(a) Building Permit issuance (b) Parcel/Final Map approval or issuance of Building Permit, whichever occurs first	
II.	AGRICULTURAL RESOURCES				
None.					
III.	AIR QUALITY				
1.	Grading and construction equipment shall be shut down when not in use.	City shall inspect construction activities.	Public Works (Eng)	Project Constr.	

MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
2. Construction activities shall not occur during windy periods.	City shall inspect construction activities.	Public Works (Eng)	Project Constr.	
3. Exposed soil surfaces shall be periodically sprinkled to retard dust; no city water shall be used for this purpose.	City shall inspect construction activities.	Public Works (Eng)	Project Constr.	
IV. BIOLOGICAL RESOURCES				
None				
V. CULTURAL RESOURCES				
1. If any archeological materials or objects are unearthed during project construction, all work in the vicinity shall be immediately halted until a qualified archeologist is retained by the City to evaluate the finds. Developer shall comply with all mitigation recommendations of the archeologist prior to commencing work in the vicinity of the archeological finds.	(a) City shall inspect construction activities. (b) City shall approve archeologist's report and require mitigation.	Public Works (Eng) Public Works (Eng)	(a) Final/Parcel Map approval or Building Permit issuance, whichever comes first (b) Project Constr.	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
2.	During non-working hours, open trenches shall be provided with signage, flashers, and barricades approved by the Street Superintendent to warn oncoming motorists, bicyclists, and pedestrians of potential safety hazards.	City shall inspect for compliance.	Public Works (Eng)	Project Constr.	
3.	All road surfaces shall be restored to pre-project conditions after completion of any project-related pipeline installation activities.	City shall inspect restoration prior to release of security.	Public Works (Eng)	Release of Security	
4.	Any pedestrian access through and/or adjacent to the project site shall remain unobstructed during project construction or an alternate route established as approved by the Police Chief and Public Works Director.	City shall inspect for compliance.	Public Works (Eng)	Project Constr.	
5.	In order to mitigate the cumulative impact of the traffic generated by the subject project on the City's arterial and collective street system, the Developer shall pay a Street Improvement Fee in accordance with Ordinance Napa Municipal Code Chapter 15.84 and implementing resolutions to pay for the traffic improvements identified therein. Such fee shall be payable at the rate in effect at the time of payment.	Developer shall submit required fee with application.	Building	Building Permit Issuance or Cert. of Occupancy/final inspection as applicable.	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
VI.	GEOLOGY AND SOILS				
1.	All Project-related grading, trenching, backfilling, and compaction operations shall be conducted in accordance with the City of Napa Public Works Department Standard Specifications (hereinafter referred to as PWD Standard Specifications).	(a) City shall review and approve grading and drainage plan prior to issuance of Building Permit (b) City shall inspect construction activities.	Public Works (Eng) Public Works (Eng)		
2.	All construction activities shall meet the Uniform Building Code regulations for seismic safety (i.e., reinforcing perimeter and/or load bearing walls, bracing parapets, etc.	(a) City shall review and approve plans prior to issuance of Building Permit. (b) City shall inspect construction.	Building Building	(a) Building Permit Issuance (b) Project Constr.	
3.	Developer shall provide an erosion and sediment control plan and a schedule for implementation of approved measures to the Public Works Director for approval with the first improvement plans submitted for review. No such grading and excavation shall be performed except in accordance with the approved plan and schedule.	(a) City shall review and approve erosion control plan and implementation schedule. (b) City shall inspect grading and excavation.	Public Works (Eng) Public Works (Eng)	(a) Submittal of first improvement plans (b) Project Constr.	
4.	Hydroseeding of all disturbed slopes shall be completed by October 1; Developer shall provide sufficient maintenance and irrigation of the slopes such that growth is established by November 1.	City shall inspect.	Public Works (Eng)	Project Constr.	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
5.	For all subdivision and parcel maps, the Developer shall prepare a preliminary Soils Investigation/Geotechnical Report in accordance with Section 16.36.200 of the NMC. A final report shall be submitted to the Public Works Director for review and determination of adequacy before approval of the Parcel or Final Map. The improvement plans shall incorporate all design and construction criteria specified in the report. The geotechnical engineer shall sign the improvement plans and approve them as conforming to their recommendations prior to Parcel/Final Map approval. The geotechnical engineer shall also assume responsibility for inspection of the work and shall certify to the City, prior to acceptance of the work, that the work performed is adequate and complies with their recommendations. Additional soils information may be required by the Chief Building Inspector during the plan check of the individual house plans in accordance with Title 15 of the NMC.	(a) City shall not approve improvement plans until certified by geotechnical engineer. (b) Engineer shall submit certification to City. (c) City shall delineate and review additional requirements during plan check.	Public Works (Eng) Public Works (Eng) Public Works (Bldg)	(a) Approval of inspection plans (b) Project Acceptance (c) Building Permit Issuance	
VII.	HAZARDS AND HAZARDOUS MATERIALS				
None					
VIII.	HYDROLOGY AND WATER QUALITY				
1.	To insure adequate drainage control, the Developer of any project which introduces new impervious surfaces (roof, driveways, patios) which will change the rate of absorption of drainage or surface run-off shall submit a drainage and grading plan designed in accordance with Policy Resolution No. 17 and the City of Napa Public Works Department 's Standard Specifications to the Public Works Department for its approval. All construction work shall be in accordance with the approved plans.	(a) City shall review and approve plan. (b) City shall inspect construction.	Public Works (Eng) Public Works (Eng)	(a) Building Permit Issuance (b) Project Constr.	

MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
2. If the project is in the Flood Hazard or Floodway Areas of the Napa River or its tributaries, Developer shall submit Certifications of Compliance by a registered architect or civil engineer required by NMC Chapter 17.62 to the Public Works Department at the times set forth in Chapter 17.62.	(a) City shall review certifications prior to approval of any Final Map. (b) City shall review certifications prior to occupancy.	Public Works (Eng) Building	(a) Final Map Approval (b) Cert. of Occupancy	
3. Side yards of each lot shall have of a minimum unobstructed width of five (5) feet. No building encroachments, door landings or mechanical equipment shall be placed in this unobstructed area without the review and approval of the Public Works Director.	City shall inspect for compliance.	Public Works (Eng)	Cert. of Occupancy	
4. For any construction activity that results in the disturbance of five (5) acres or greater total land area, or is part of a larger common plan of development that disturbs five (5) acres or greater total land area, Developer shall file a Notice of Intent with the California Regional Water Quality Control Board ("SWRCB") prior to any grading or construction activity. In the event construction activity for the project occurs after the SWRCB has changed its General Permit for construction activity to cover disturbance(s) of one (1) acre or more, this measure shall apply to any construction activity for this project which results in the disturbance of one (1) acre or greater total land area, or is part of a larger common plan of development that disturbs one (1) acre or greater total land area.	Developer shall submit copy of Notice of Intent and Developer's Storm Water Pollution Prevention Plan prepared in accordance with the SWRCB requirements prior to issuance of grading permit or any construction activity.	Public Works (BUD)	Grading Permit Issuance	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
5.	Developer shall ensure that no construction materials (e.g., cleaning fresh concrete from equipment) are conveyed into the storm drain system. The Developer shall pay for any required cleanup, testing and City administrative costs resulting from consequence of construction materials into the storm water drainage system.	City shall inspect construction activities.	Public Works	Project Constr.	
6.	All materials that could cause water pollution (i.e., motor oil, fuels, paints, etc.) shall be stored and used in a manner that will not cause any pollution. All discarded material and any accidental spills shall be removed and disposed of at an approved disposal site.	City shall inspect for compliance.	Public Works	Project Constr.	
7.	The Developer of an industrial facility shall file a Notice of Intent in accordance with the State General Permit for Industrial Activities with the State Water Resources Control Board prior to establishment of the use.	Developer shall submit a conformed copy of the Notice of Intent prior to issuance of Building Permit or establishment of use.	Public Works	Building Permit Issuance	
8.	All construction activities shall be performed in a manner that minimizes, to the maximum extent practicable, any pollutants entering directly or indirectly the storm water system or ground water. The Developer shall pay for any required cleanup, testing and City administrative costs resulting from consequence of construction materials into the storm water drainage system.	(a) Developer shall submit copies of all required permits to City prior to issuance of Building Permit. (b) City shall inspect construction activities.	Public Works Public Works (Eng)	(a) Building Permit Issuance (b) Project Constr.	
9.	Unless otherwise provided, all measures included in project approval pursuant to NMC Chapter 17.60 (CR suffix and flood evacuation) shall be installed or carried out prior to final clearance of the Building Permit or concurrently with the installation of site improvements in the case of a subdivision map.	City shall review and approve plans and schedules.	Public Works; Planning	Final clearance of Building Permit or installation of improvements	

MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
10. Developer shall meet the requirements of discharging to a public storm drainage system as required to ensure compliance by the City with all state and federal laws and regulations related to storm water as stipulated in the Clean Water Act. Developer shall meet the requirements of the National Pollutant Discharge Elimination System ("NPDES") permit in effect prior to completion of project construction for storm water discharges from the municipal storm water system operated by the City of Napa. Developer shall comply with the Storm Water Pollution Mitigation Plan ("SWPMP") submitted by Developer as part of its application as (modified and) approved by the Director of Public Works.	(a) City shall review and approve all improvement plans	Public Works (BUD)	Parcel/final map approval or issuance of a building, whichever occurs first	
	(b) Plan requirements shall be incorporated into any improvement agreements for the project	Public Works (BUD)	Parcel/final map approval or issuance of a building, whichever occurs first	
	(c) City shall inspect construction	Public Works (BUD)	Project construction	
	(d) In the event ongoing mitigation is part of the approved plan, Developer shall either execute a monitoring compliance agreement satisfactory to the City or provide for long term compliance with the approved SWPMP via an owners association and CCR's satisfactory to City, with the City as third party beneficiary with the right to enforce the obligations	Public Works (BUD)	Parcel/final map approval or issuance of a building, whichever occurs first	
11. Developer shall mark all new storm drain inlets with permanent markings, which state "No Dumping—Flows to River." This work shall be shown on improvement plans	(a) City shall review and approve all improvement plans	Public Works (BUD)	Parcel/final map approval or issuance of a building permit, whichever occurs first	
	(b) City shall inspect construction	Public Works (BUD)	Cert. of Occupancy	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
12.	Developer shall record a plan for long-term private maintenance acceptable to the Director of Public works and the City Attorney for any structural storm water pollution removal devices or treatment control BMP incorporated as part of the project. The plan shall comply with City and SWRCB requirements including, but not limited to, a detailed description of responsible parties, inspections, maintenance procedures for the detention system, including monitoring and documentation of annual report to the Public Works Department and procedures for enforcement. Appropriate easements or other arrangements satisfactory to the Public Works Director and City Attorney necessary or convenient to ensure the feasibility of the scheme and fulfillment of maintenance responsibilities shall be secured and recorded prior to approval of the final/parcel map or issuance of a building permit, whichever comes first.	(a) City shall review and approve plan including documents necessary to ensure obligations will run with the land (b) Developer shall record documents (c) The responsible person or entity identified in the approved plan shall submit annual compliance reports to the PWD (d) Any work required to be done arising out of the annual compliance report shall be promptly performed by a licensed contractor or other licensed professional as applicable.	Pubic Works (BUD) City Attorney Public Works (BUD) Public Works (BUD) Public Works (BUD)	Parcel/final map approval or issuance of a building permit, whichever occurs first. Parcel/final map approval or issuance of a building permit, whichever occurs first. Annual As required	
IX.	LAND USE AND PLANNING				
1.	Developer shall comply with all requirements of federal, state, and local laws and regulations applicable to project construction and issuance of Building Permits.	(a) Developer shall submit plans to City and other affected agencies for review and approval; Developer shall pay all required fees. (b) City shall inspect construction.	Building Building	(a) Building Permit Issuance (b) Project Construction	

MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
2. Developer shall comply with the monitoring/reporting checklists developed for CEQA implementation procedures for both standard and project specific mitigation measures.	(a) Each City department shall submit to Planning Dept. a sign off that each construction-related mitigation plan for which the department is responsible is completed at time of compliance. (b) For each on-going mitigation measure a separate schedule shall be included in the monitoring program for that mitigation measure.	Planning Planning	(a) At time of compliance for each measure. (b) Project Approval	
3. Developer shall notify all employees and agents of the mitigation measures and conditions applicable to the project and shall ensure compliance with such measures and conditions. Developer shall also notify all assigns and transferees of the same.	(a) Developer shall submit certificates to the City indicating compliance. Such certificates shall be submitted prior to issuance of a grading permit, Building Permit and Cert. of Occupancy. (b) City shall record resolution approving project.	Planning, Public Works, Bldg., Fire Prev. City Clerk	(a) Grading Permit, Building Permit, Cert. of Occupancy (b) Project Approval	
X. MINERAL RESOURCES				
None			.	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
XI.	NOISE				
1.	Construction activities shall be limited to specific times pursuant to NMC 8.08.025 which limits construction activities to 7:00 a.m. to 7:00 p.m., Monday through Friday and 8:00 a.m. to 4:00 p.m. on weekends or legal holidays, unless a permit is first secured from the City Manager (or his/her designee) for additional hours. The ordinance further states that there will be: no start up of machines nor equipment prior to 8:00 a.m., Monday through Friday; no delivery of materials nor equipment prior to 7:30 a.m. nor past 5:00 p.m., Monday through Friday; no cleaning of machines nor equipment past 6:00 p.m., Monday through Friday; no servicing of equipment past 6:45 p.m., Monday through Friday.	(a) Developer shall post on-site notice of times for construction. (b) City shall inspect for compliance.	Public Works (Eng) Public Works (Eng)	(a) Project Constr. (b) Project Constr.	
2.	Construction equipment must have state-of-the-art muffler systems required by current law. Muffler systems shall be properly maintained.	City shall inspect construction equipment.	Public Works (Eng)	Project Constr.	
3.	Noisy stationary construction equipment, such as compressors, shall be placed away from developed areas off-site and/or provided with acoustical shielding.	City inspects location of equipment.	Public Works (Eng)	Project Constr.	
4.	Grading and construction equipment shall be shut down when not in use.	City shall inspect for compliance.	Public Works (Eng)	Project Constr.	
XII.	POPULATION AND HOUSING				
None.					

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
XIII.	PUBLIC SERVICES				
1.	Developer shall comply with all applicable requirements of the Uniform Fire Code and the City of Napa Fire and Public Works Standard Specifications including, without limitation, the requirements for access, new construction, smoke detectors, fire extinguishers, fire hydrants, etc. Existing fire hydrants may be used to meet hydrant location requirements only if they meet or are changed to meet current hydrant specifications.	City shall review and approve plans prior to issuance of a Building Permit.	Fire Prev.	Building Permit Issuance	
2.	Properties having common ownership shall provide the Fire Department with a notarized copy of the recorded conditions, covenants, and restrictions agreement in a form satisfactory to the City Attorney ensuring that all components of fire protection systems), and fire access roads will be maintained by a maintenance district, owner's association, or similar legally responsible entity.	Developer shall submit CC&R's to City prior to approval of the Final/Parcel Map.	Fire Prev.	Final/Parcel Map Approval	
3a.	All newly constructed buildings must have automatic sprinkler systems conforming to NFPA and City Standard Specifications, for which installation permit must be obtained from Fire Prevention. In multi-building complexes, or in buildings with three (3) or more stories, special monitoring conditions will be required.	(a.1) City shall review & approve plans prior to issuance of Building Permit. (a.2) City shall inspect construction.	Fire Prev. Fire Prev.	(a.1) Building Permit Issuance (a.2) Project Constr.	
3b.	Existing habitable buildings, which are retained, shall be retrofitted.	(b) City shall inspect construction.	Fire Prev.	(b) Final/Parcel Map Approval or Building Permit Issuance, whichever comes first	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
4.	The Developer of any project proposing a change in occupancy use classification (as defined in the Uniform Building Code Table 5A) in a building protected by automatic fire sprinklers shall have the sprinkler system evaluated by a licensed fire sprinkler contractor or fire protection engineer for compliance with National Fire Protection Association Installation Standards. A written report of the inspection findings shall be submitted to the Fire Department prior to final occupancy clearance. A permit is required from Fire Prevention for sprinkler system alterations.	(a) Developer shall submit written report prior to occupancy clearance. (b) Applicant shall receive any required permits prior to occupancy.	Fire Prev. Fire Prev.	(a) Cert. of Occupancy (b) Cert. of Occupancy	
5.	The Developer of any project which proposes commercial occupancies shall secure approval from Fire Prevention and Building Departments prior to signing lease agreements and allowing occupancy of prospective occupants that pose possible fire and life safety hazards, or are classified, or are classified by the Uniform Building Code as an H (hazardous) occupancy. Examples of these types of occupancies are: Storage of flammable, combustible, explosive, or toxic materials, manufacturing processes involving the above, woodworking shops, fire rebuilding or storage, automotive repair, auto body repair and/or painting, factories where loose combustible fibers are present, semi-conductor fabrication facilities, bulk paint storage, etc.	Developer shall secure approval prior to signing lease agreements and allowing occupancy.	Fire Prev., Building	Prior to Occupancy/Cert. of Occupancy	
6.	Developer shall pay the required fire and paramedic fees for new development in accordance with Napa Municipal Code Chapter 15.78. Such fees shall be payable at the rate in effect at the time of payment for the unit involved.	Developer shall submit required fee with application for permit.	Building	Building Permit Issuance or Cert. of Occupancy/final inspection, as applicable	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
XIV.	RECREATION				
1.	Developer shall pay the required fees for each new dwelling unit in accordance with the Napa Municipal Code Chapter 15.68. Such fee shall be payable at the rate in effect at the time of payment for the unit involved.	Developer shall submit the required fees with application for permit.	Building	Building Permit Issuance	
2.	Unless project approval requires only land dedication, the Developer shall pay in-lieu park dedication fee(s) in accordance with and for the purposes of NMC Sections 16.32.040, 15.68.010 and 15.68.090 for each residential unit authorized or allowed by project approval. Such fee(s) shall be payable at the rate in effect at time of payment. Unless waived the Public Works Director, street improvements shall include curb, gutter, sidewalks, planters, street lights, street trees, etc., any necessary right-of-way widening shall be dedicated to the City to accommodate these improvements.	Developer shall pay the required fees prior to Final/Parcel Map, Building Permit, Cert. of Occupancy.	Building	Final/Parcel Map approval, Building Permit Issuance, Cert. of Occupancy/final inspection as applicable for type of project	
XV.	TRANSPORTATION/TRAFFIC				
1.	All required public frontage and street improvements shall be designed and built in accordance with City of Napa ordinances and the PWD Standard Specifications. Unless waived the Public Works Director, street improvements shall include curb, gutter, sidewalks, planters, street lights, street trees, etc., any necessary right-of-way widening shall be dedicated to the City to accommodate these improvements.	(a) City shall review and approve plans and dedications prior to approval of Final or Parcel Map or issuance of a Building Permit, whichever comes first. (b) City shall inspect construction.	Public Works (Eng) Public Works (Eng)	(a) Final/Parcel Map approval or Building Permit issuance, whichever comes first (b) Project Constr.	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
2.	During non-working hours, open trenches shall be provided with signage, flashers, and barricades approved by the Street Superintendent to warn oncoming motorists, bicyclists, and pedestrians of potential safety hazards.	City shall inspect for compliance.	Public Works (Eng)	Project Constr.	
3.	All road surfaces shall be restored to pre-project conditions after completion of any project-related pipeline installation activities.	City shall inspect restoration prior to release of security.	Public Works (Eng)	Project Constr.	
4.	Any pedestrian access through and/or adjacent to the project site shall remain unobstructed during project construction or an alternate route established as approved by the Police Chief and Public Works Director.	City shall inspect for compliance.	Public Works (Eng)	Project Constr.	
5.	In order to mitigate the cumulative impact of the traffic generated by the subject project on the City's arterial and collective street system, the Developer shall pay a Street Improvement Fee in accordance with Ordinance, Napa Municipal Code Chapter 15.84, and implementing resolutions to pay for the traffic improvements identified therein. Such fee shall be payable at the rate in effect at the time of payment.	Developer shall submit required fee with application.	Building	Building Permit Issuance or Cert. of Occupancy/final inspection as applicable.	
XVI.	UTILITIES AND SERVICE SYSTEMS				
1.	Prior to trenching within existing roadway areas, the Developer's engineer shall ascertain the location of all underground utility systems and shall design any proposed subsurface utility extensions to avoid disrupting the services of such systems.	(a) Developer shall call USA prior to construction. (b) City shall inspect construction works in public right-of-way.	Public Works (Eng) Public Works (Eng)	(a) Project Constr. (b) Project Constr.	

	MITIGATION MEASURE		METHOD OF MONITORING/REPORTING	VERIFYING DEPT.		TIME OF COMPLIANCE	INT. DATE
2.	Water and energy conservation measures shall be incorporated into project design and construction in accordance with applicable codes and ordinances.	(a)	City shall review and approve plans prior to issuance of a Building Permit.	Building	(a)	Building Permit Issuance	
		(b)	City shall inspect for compliance.	Building	(b)	Cert. of Occupancy	
3a.	The project shall be connected to the Napa Sanitation District for sanitary sewer service.	(a1)	Sanitation District shall provide written clearance prior to issuance of Building Permit.	Building	(a1)	Building Permit Issuance	
		(a2)	Sanitation District shall provide written clearance prior to issuance of Cert. of Occupancy.	Building	(a2)	Cert. of Occupancy	
3b.	If the subject property is presently served by individual sewage disposal systems, the septic systems, set backs, and reserve areas must be protected and maintained during cleaning, grading, construction, and after connection to the District, the existing septic tank(s) shall be properly destroyed.	(b)	The Dept. of Environmental Health shall provide written clearance prior to issuance of Cert. of Occupancy.	Building	(b)	Cert. of Occupancy	
4a.	The project shall be connected to the City of Napa water system.			Public Works (Water)	(a)	Cert. of Occupancy	
4b.	Any existing well must be properly protected from potential contamination. If an existing well is to be destroyed, a well-destruction permit must be obtained from the Napa County Department of Environmental Management by a licensed well driller. If an existing well is not destroyed, it must be properly protected and an approved backflow prevention device installed according to the Water District's specifications.			Public Works (Water)	(b)	Cert. of Occupancy	

	MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
5.	The project shall be designed and built in accordance with the City of Napa Public Works Department Standard Specifications regarding the adequate conveyance of storm waters.	(a) City shall review and approve all plans and specifications and inspect construction. (b) City shall inspect construction.	Public Works (Eng) Public Works (Eng)	(a) Final/Parcel Map Approval or Bldg. permit Issuance, whichever comes first. (b) Project Constr.	
6.	All faucets in sinks and lavatories shall be equipped with faucet aerators designed to limit the maximum flow to two and two tenths (2.2) gallons per minute.	City shall inspect for compliance.	Building	Cert. of Occupancy	
7.	All shower heads shall be of a design to limit the maximum flow to two and one-half (2.5) gallons per minute.	City shall inspect for compliance.	Building	Cert. of Occupancy	
8.	The Developer shall completely offset the water requirements of this project by complying with the retrofit requirements of Napa Municipal Code Chapter 13.09.	Developer shall submit Cert. of Compliance and City shall inspect for compliance.	Public Works (Wtr)	Cert. of Occupancy	
9.	During the construction/demolition/renovation period of the project, Developer shall use the franchised garbage hauler for the service area in which the project is located to remove all wastes generated during project development, unless Developer transports project waste. If the Developer transports the project's waste, Developer must use the appropriate landfill for the service area in which the project is located.	(a) Developer shall submit a statement indicating how waste will be handled prior to issuance of a Building Permit. (b) Developer shall submit copy of receipts from landfill or the franchised garbage hauler.	Public Works (Eng) Public Works (Eng)	(a) Building Permit Issuance (b) Project Constr.	

MITIGATION MEASURE	METHOD OF MONITORING/REPORTING	VERIFYING DEPT.	TIME OF COMPLIANCE	INT. DATE
10a. Developer shall provide for the source separation of wood waste for recycling.	(a) City shall inspect for compliance.	Public Works (Eng)	(a) Project Constr.	
10b. Developer shall use the franchised garbage hauler for the service area in which located for collection of such wood waste, unless the Developer transports such wood waste to a location where wood waste is recycled.	(b1) Developer shall submit a statement indicating how wood waste will be handled prior to issuance of a Building Permit.	Public Works (Eng)	(b1) Building Permit Issuance	
	(b2) A developer shall submit a copy of receipts from landfill or the franchised garbage hauler.	Public Works (Eng)	(b2) Project Constr.	
11. The Developer of a commercial, industrial or multi-family project with common waste disposal facilities shall submit to and receive approval from the Public Works Director of a source reduction plan which meets the City's Source Reduction and Recycling Element and implementing guidelines.	(a) Developer shall receive plan approval prior to issuance of Building Permit.	Planning	(a) Building Permit Issuance	
	(b) Developer shall file period reports.	Public Works (Eng)	(b) As per schedule in approved plan	
12. A recycling/solid waste enclosure shall be provided in accordance with Chapter 17.102, et seq. of the NMC for all commercial, industrial and multi-family projects with common solid waste facilities.	(a) City shall review and approve plans prior to permit approval.	Planning	(a) Building Permit issuance	
	(b) City inspects for compliance.	Planning	(b) Cert. of Occupancy	

*Whenever implementation of a mitigation measure requires approval or compliance prior to issuance of a Building Permit, that implementation shall be read as requiring approval or compliance prior to the commencement of a use in the event a Building Permit will not be required.

CITY OF NAPA
POLICY RESOLUTION 27

ATTACHMENT B
STANDARD CONDITIONS

GENERAL

1. Developers shall pay all applicable fees and charges at the required time and at the rate in effect at time of payment (see Policy Resolution 16 as amended for a partial listing of applicable fees and Policy Resolution 16 or individual departments regarding the timing of fee payment requirements).

2. The authorized project is limited to the project as described in Developer's application, correspondence and final submitted plans and specifications and in accordance with the Developer's representations and agreements made at the public hearing(s) on the project. All project development, including the design and construction of improvements, shall be consistent with the same. Any future additions, expansions, remodeling, including changes in style, size, height, color, bulk, shall be subject to future review by City.

3. Developer shall design and construct all improvements and facilities shown on any approved tentative map, site plan, or other documents submitted for permit approval, all representations made by Developer, and with the plans and specifications submitted to and approved by City, to comply with the General Plan, any applicable Specific Plan, the Napa Municipal Code (NMC), City ordinances and resolutions, the "Standard Specifications" of the Public Works and Fire Departments, as well as any approved tentative map, site plan or other documents submitted for permit approval, all representations made by Developer, and with the plans and specifications submitted to and approved by City.

4. The time limit within which to commence any lawsuit or legal challenge to any quasi-adjudicative decision made by the City is governed by Section 1094.6 of the Code of Civil Procedure, unless a shorter limitations period is specified by any other provision. Under Section 1094.6, any lawsuit or legal challenge to any quasi-adjudicative decision made by the City must be filed no later than the 90th day following the date on which such decision becomes final. Any lawsuit or legal challenge, which is not filed within that 90-day period, will be barred.

5. (a) For subdivisions only: The Developer shall defend and indemnify and hold the City, its agents, officers, and employees harmless of any claim, action or proceedings to attack, set aside, void or annul the approval so long as the City promptly notifies the Developer of any such claim, action, or proceedings, and the City cooperates fully in the defense of the action or proceedings.

   (b) For approvals, permits other than subdivisions. To the full extent permitted by law, the Developer shall indemnify, defend, release and hold City, its agents, officers, and employees from and against any claims, suits, liabilities, actions, damages, penalties or causes of action by any person, including Developer, for any injury (including death) or damage to person or property or to set aside, attack, void or annul any actions of City, its agents, officers and employees, from any cause whatsoever in whole or in part arising out of or in connection with (1) the processing, conditioning or approval of the subject property; (2) any failure to comply with all applicable laws and regulations; or (3) the design, installation or operation of project improvements and regardless whether the actions or omissions are alleged to be caused by City or Developer so long as City promptly notifies Developer of any such claim, etc., and the City cooperates in the defense of same.

6. Developer shall pay all fees related to filing of environmental documents for the project with the County Clerk.

7. If the Developer is not the owner of the subject property, all agreements required to be executed by the City must be executed by the Owner(s) as well as the Developer.

8. The Developer shall pay all City staff development fees, which are or may become due to City pursuant to Napa Municipal Code Section 2-204, et seq.

9. The conditions (and mitigations) of project approval set forth herein include certain fees, dedication requirements, reservation requirements and other exactions. Pursuant to Government Code Section 66020(d)(1), these conditions (and mitigations) constitute written notice of the statement of the amount of such fees and a description of the dedications, reservations, and other exactions. You are hereby notified that the 90-day period in which you may protest those fees, the amount of which has been identified herein, dedications, reservations and other exactions has begun. If you fail to file a protest complying with all the requirements of Section 66020, you will be legally barred from later challenging such exaction.

10. Violation of any term, condition, mitigation measure or project description relating to this approval is unlawful, prohibited and a violation of the Napa Municipal Code and can result in revocation or modification of this approval and/or the institution of civil and/or criminal enforcement and/or abatement proceedings.

11. Project approval would not have been granted but for the applicability and validity of each and every one of the specified mitigations and conditions, and if any one or more of such conditions and mitigations is found to be invalid by a court of law, this project approval would not have been granted without requiring other valid conditions and/or mitigations consistent with achieving the purpose and intent of such approval.

PLANNING DEPARTMENT

No use authorized by a use permit or planned development permit may commence until after the Developer executes any required permit agreement.

PUBLIC WORKS DEPARTMENT

1. Developer shall resurface the existing street pavement whenever a street is cut, either by a longitudinal or transverse cut, for utility or other improvement installations. The resurfacing shall extend a sufficient distance beyond any cut to ensure a smooth transition and shall consist of either a 1 inch asphalt concrete overlay, or petromat with a minimum 1 ½ inch asphalt concrete overlay, depending upon the extent of the proposed pavement cuts and the condition of the existing pavement section, as determined by the Director of Public Works. Developer shall also provide digouts and reconstruction of any potholed and/or alligatored areas.

2. Approved backflow prevention devices shall be installed on all new and existing domestic, commercial, irrigation and fire water services. These devices must be tested by an AWWA certified tester from a list of testers provided by the City of Napa. Water service will not be initiated until this test is complete.

3. Any retaining walls, which are adjacent to a property line, shall be masonry or concrete. Wood retaining walls shall not be installed adjacent to property lines.

4. Installation of street paving shall include reconstruction of the existing pavement section to provide adequate conforms. The limits of such reconstruction shall be reviewed and approved by the Public Works Director as part of the construction plan review.

5. The following standard condition is applicable to use permit approvals:

   The Developer shall submit to the Public Works Department construction improvement plans for all on and off-site improvements, including detailed designs for all utilities, water, grading, drainage, erosion control, paving and solid waste storage and recycling areas. The plans shall be prepared by a registered civil engineer unless the Public Works Director authorizes them to be prepared by some other qualified professional. The plans must be reviewed and approved by the Public Works Director prior to issuance of the building permit for the project. If no building permit is required, the plans must be approved by the Public Works Director prior to establishment of the use. All required improvements shall be completed by the Developer prior to occupancy and establishment of the use. To guarantee completion of the improvements, the Developer shall enter into an agreement with the City and provide a security acceptable to the City prior to issuance of any building permit. An agreement will not be required if the Developer completes all of the required improvements to the satisfaction of the Public Works Director prior to issuance of the building permit.

6. The following standard conditions are applicable to tentative subdivision and parcel map approvals:

   (a) Prior to approval of the Final Map or Parcel Map, the Developer shall furnish the Public Works Department with proof of the payment of the mapping service fee as required by Napa County Board of Supervisors Resolution No. 92-119.

   (b) Prior to approval of the Final or Parcel Map, the Developer shall execute the City's Standard Improvement Agreement and provide proof of workers compensation insurance and general liability insurance in the forms and amounts as required by the Risk Manager and City Attorney. Typically one million dollar general liability insurance is required.

   (c) If multiple final maps are filed, all required improvements shall be installed with the first final map unless a plan showing the detailed phasing of the multiple final maps and installation of improvements is approved by the Planning and Public Works Directors prior to approval of the first map.

   (d) The Developer shall grant public utility easements adjacent to the public street right-of-way. The size and locations of the easements shall be determined by the Public Works Director based on consultations with representatives of the utility companies.

   (e) Prior to approval of the Final or Parcel Map, Developer shall execute a reciprocal access and maintenance agreement for all parcels, which share use of private access, drives. The agreement shall be in a form approved by the City Attorney and shall be recorded with the Final Map.

7. The Developer shall furnish proof satisfactory in form to the City Attorney of the acquisition of all rights of entry, permits, easements, etc., necessary to construct the project or to satisfy required project mitigation measures and/or conditions prior to map approval or commencement of the use if no map is required.

8. Unless waived by the Public Works Department, Developer shall provide all improvement plans in digital auto-cad format, compatible with the City's current version, and tied to the City's coordinate system for all storm drain facilities, water lines, lot lines, sanitary sewer lines, sidewalks and streets. Auto-cad files shall be submitted prior to issuance of any permit and updated for as-built information prior to City's acceptance of the improvements.

9. Developer shall replace any damaged curb and gutter along street frontages in accordance with Public Works Department Standard Specifications prior to final inspection or issuance of a Certificate of Occupancy, whichever comes first.

10. Developer shall design storm drain pipes to have a self-cleaning minimum velocity of three feet (3') per second when flowing half full (Design Manual Concrete Pipe, Page 7 and Caltrans Highway Design Manual, Page 830-15). The Developer shall provide calculations showing this condition is met with the first submittal of project improvement plans.

11. On-site storm drains, outside of City right-of-way, shall be made of SDR-35 plastic or reinforced concrete pipe. The use of cast in place of concrete pipe (CIPP) requires the approval of the Director of Public Works. To obtain approval of CIPP, the Director shall provide a soils report indicating ground water level and suitability of soil, a construction schedule showing that CIPP will not be installed between October 1 and March 1, a record of the contractor's CIPP experience and a quality assurance plan for installation of the CIPP.

COMMUNITY RESOURCES DEPARTMENT

1. Developer shall submit a conceptual street tree planting plan (to be included in any required improvement plan) for all public streets for approval by the Public Works Director; in the event Developer utilizes a curb adjacent sidewalk, Developer shall submit a conceptual private tree planting plan for approval. For subdivision projects, Developer shall enter into an agreement satisfactory in form and security to City to plant and maintain the required street trees prior to the approval of a Final or Parcel Map. For projects other than subdivisions, Developer shall plant trees shown on the City's approved Street Tree List in accordance with the Standard Specification for Public Improvements and approved conceptual tree planting plans prior to City's issuance of an occupancy permit or commencement of the use.

2. Developer shall maintain (which term includes replacement) the trees in a healthy, vigorous and growing condition for a period of three (3) years from the date of planting. If at the end of the three (3) year period the trees are not in a healthy, vigorous and growing condition, at the option of the Community Resources Director, the Developer shall replace the tree(s) and/or the Developer's maintenance obligation may be extended for an additional one (1) year period.

3. Developer shall submit to and receive approval from the Community Resources Department of a plan for privately funded long-term maintenance of the side-on and/or back-on landscaping for any subdivision. Prior to final map approval, documents or other evidence assuring implementation of the plan satisfactory to the City Attorney shall be in place.

4. If City has required street back-on or side-on or median strip landscaping, Developer shall submit landscape and irrigation plans to the CRD for approval in accordance with NMC Section 12.44.020. Plans must conform to the CRD's Specifications for Street Back-On and Median Strip Landscaping a copy of which is available from the Community Resources Department. Developer shall submit evidence of appropriate satisfaction of this requirement prior to approval of final map.

HOUSING

Unless otherwise provided, Developer shall, in the case of new non-residential development projects, pay the required Housing Impact Fee or, in the case of residential development projects, construct the affordable unit(s) or pay the In-Lieu Fee in accordance with the terms of NMC Chapter 15.94. Fees shall be payable at the rate in effect at the time of payment. The findings set forth in NMC Chapter 15.094 and Resolution No. R1999 161 are incorporated herein. The City further finds that there is a reasonable relationship between the fees imposed and the costs of the facilities attributable to this project.

FCS
An ADEC Innovation

Appendix B:

Air Quality, Greenhouse Gas Emissions, and Energy Supporting Information

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Air Quality, Greenhouse Gas Emissions, and Energy Supporting Information

Table of Contents

CalEEMod Input Assumptions

CalEEMod Construction and Operations Emissions Report

CalEEMod Supporting Calculations

HRA Emissions

AERMOD Emissions and Source Parameters

AERMOD Source Figure

AERMOD Wind Rose Figure

AERMOD MEIR and MEIW Figure

AERMOD Report

HARP Methodology

HARP Report

BAAQMD Screening Report

BAAQMD Raster and MEIR and MEIW

BAAQMD Raster at MEIR

Energy Calculations

GHG Consistency Checklist (Delete if not needed)

Traffic Analysis / Technical Memorandum (Delete if not needed)

Zinfandel Estates - On-Site Construction + Operations Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

2.5. Operations Emissions by Sector, Unmitigated

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

3.3. Site Preparation (2025) - Unmitigated

3.5. Grading (2025) - Unmitigated

3.7. Building Construction (2025) - Unmitigated

3.9. Building Construction (2026) - Unmitigated

3.11. Building Construction (2027) - Unmitigated

3.13. Paving (2027) - Unmitigated

3.15. Architectural Coating (2027) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Zinfandel Estates - On-Site Construction + Operations
Construction Start Date	9/1/2025
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	42.2
Location	38.335705, -122.314568
County	Napa
City	Napa
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	808
EDFZ	2
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Single Family Housing	51.0	Dwelling Unit	9.86	252,225	221,609	9,362	140	51 single family homes, average 4950 sf each.
Other Asphalt Surfaces	40.8	1000sqft	0.94	0.00	0.00	0.00	—	Interior street
Apartments Low Rise	12.0	Dwelling Unit	0.00	4,608	0.00	0.00	33.0	12 ADUs multipled by 384 sf

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.72	0.71	14.8	29.1	0.05	0.21	7.81	7.91	0.20	3.97	4.07	—	5,447	5,447	0.22	0.14	1.92	5,468
2026	0.44	0.43	9.06	15.6	0.02	0.09	0.27	0.36	0.09	0.07	0.15	—	2,806	2,806	0.11	0.06	1.38	2,826
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.04	0.93	22.9	37.2	0.08	0.23	7.81	7.91	0.21	3.97	4.07	—	9,174	9,174	0.38	0.45	0.15	9,319
2026	0.44	0.42	9.09	15.5	0.02	0.09	0.27	0.36	0.09	0.07	0.15	—	2,790	2,790	0.11	0.06	0.04	2,810
2027	0.43	181	9.07	15.4	0.02	0.09	0.27	0.36	0.09	0.07	0.15	—	2,783	2,783	0.11	0.05	0.03	2,802
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.17	0.15	3.66	6.05	0.01	0.04	0.63	0.67	0.04	0.26	0.29	—	1,340	1,340	0.05	0.05	0.31	1,357
2026	0.31	0.30	6.48	11.0	0.02	0.06	0.19	0.25	0.06	0.05	0.11	—	1,994	1,994	0.08	0.04	0.42	2,009
2027	0.03	9.98	0.72	1.12	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	181	181	0.01	< 0.005	0.03	182
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.03	0.03	0.67	1.10	< 0.005	0.01	0.12	0.12	0.01	0.05	0.05	—	222	222	0.01	0.01	0.05	225
2026	0.06	0.06	1.18	2.01	< 0.005	0.01	0.03	0.05	0.01	0.01	0.02	—	330	330	0.01	0.01	0.07	333
2027	0.01	1.82	0.13	0.20	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	29.9	29.9	< 0.005	< 0.005	0.01	30.1

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.15	2.04	1.40	11.0	0.02	0.02	2.14	2.16	0.02	0.54	0.56	—	2,472	2,472	0.13	0.13	7.75	2,522
Area	0.36	6.82	0.32	3.70	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	375	375	0.01	< 0.005	—	375
Energy	0.06	0.03	0.53	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	902	902	0.10	0.01	—	906
Water	—	—	—	—	—	—	—	—	—	—	—	4.17	16.3	20.5	0.43	0.01	—	34.3
Waste	—	—	—	—	—	—	—	—	—	—	—	22.1	0.00	22.1	2.21	0.00	—	77.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.84	1.84
Total	2.58	8.89	2.26	14.9	0.03	0.09	2.14	2.23	0.09	0.54	0.63	26.3	3,765	3,791	2.87	0.15	9.59	3,917
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.07	1.94	1.62	11.5	0.02	0.02	2.14	2.16	0.02	0.54	0.56	—	2,355	2,355	0.16	0.14	0.20	2,403
Area	0.03	6.51	0.29	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	365	365	0.01	< 0.005	—	365
Energy	0.06	0.03	0.53	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	902	902	0.10	0.01	—	906
Water	—	—	—	—	—	—	—	—	—	—	—	4.17	16.3	20.5	0.43	0.01	—	34.3
Waste	—	—	—	—	—	—	—	—	—	—	—	22.1	0.00	22.1	2.21	0.00	—	77.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.84	1.84
Total	2.16	8.48	2.44	11.8	0.03	0.09	2.14	2.23	0.09	0.54	0.63	26.3	3,639	3,665	2.90	0.16	2.04	3,788
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	1.97	1.85	1.47	10.3	0.02	0.02	2.00	2.03	0.02	0.51	0.53	—	2,284	2,284	0.14	0.13	3.23	2,331
Area	0.16	6.65	0.02	1.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	13.7	13.7	< 0.005	< 0.005	—	13.7
Energy	0.06	0.03	0.53	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	902	902	0.10	0.01	—	906
Water	—	—	—	—	—	—	—	—	—	—	—	4.17	16.3	20.5	0.43	0.01	—	34.3
Waste	—	—	—	—	—	—	—	—	—	—	—	22.1	0.00	22.1	2.21	0.00	—	77.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.84	1.84
Total	2.19	8.53	2.03	12.3	0.03	0.07	2.00	2.07	0.06	0.51	0.57	26.3	3,216	3,242	2.87	0.15	5.07	3,364
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.36	0.34	0.27	1.88	< 0.005	< 0.005	0.37	0.37	< 0.005	0.09	0.10	—	378	378	0.02	0.02	0.53	386
Area	0.03	1.21	< 0.005	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.27	2.27	< 0.005	< 0.005	—	2.28
Energy	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	149	149	0.02	< 0.005	—	150
Water	—	—	—	—	—	—	—	—	—	—	—	0.69	2.70	3.39	0.07	< 0.005	—	5.68
Waste	—	—	—	—	—	—	—	—	—	—	—	3.66	0.00	3.66	0.37	0.00	—	12.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.30	0.30
Total	0.40	1.56	0.37	2.24	< 0.005	0.01	0.37	0.38	0.01	0.09	0.10	4.35	532	537	0.48	0.02	0.84	557

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.41	11.9	18.2	0.03	0.20	—	0.20	0.19	—	0.19	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.50	0.50	—	0.08	0.08	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	1.00	< 0.005	0.01	—	0.01	0.01	—	0.01	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.12	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.04	0.69	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	130	130	< 0.005	0.01	0.55	132
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.84	0.27	< 0.005	0.01	0.16	0.17	0.01	0.04	0.05	—	633	633	0.03	0.10	1.37	666
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.71	6.71	< 0.005	< 0.005	0.01	6.81

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.7	34.7	< 0.005	0.01	0.03	36.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.11	1.11	< 0.005	< 0.005	< 0.005	1.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.75	5.75	< 0.005	< 0.005	0.01	6.04

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	14.7	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	14.7	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.40	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.81	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	152	152	< 0.005	0.01	0.64	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.73	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	141	141	< 0.005	0.01	0.02	143
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.91	3.91	< 0.005	< 0.005	0.01	3.97
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.80	19.4	35.3	0.06	0.18	—	0.18	0.18	—	0.18	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	0.07	1.60	2.91	0.01	0.01	—	0.01	0.01	—	0.01	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.29	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.84	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	162	162	0.01	0.01	0.02	164
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.16	0.05	3.36	1.06	0.02	0.04	0.60	0.65	0.03	0.17	0.20	—	2,414	2,414	0.11	0.39	0.14	2,533
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.03	13.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.27	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	198	198	0.01	0.03	0.18	208
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.22	2.22	< 0.005	< 0.005	< 0.005	2.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.8	32.8	< 0.005	0.01	0.03	34.5

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.32	8.74	14.3	0.02	0.09	—	0.09	0.08	—	0.08	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	1.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	178	178	0.01	< 0.005	—	179
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.12	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.5	29.5	< 0.005	< 0.005	—	29.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.13	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	218	218	0.01	0.01	0.03	221
Vendor	0.01	0.01	0.27	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	182	182	0.01	0.03	0.01	190
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.4	16.4	< 0.005	< 0.005	0.03	16.6
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	14.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	0.01	2.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.24	2.24	< 0.005	< 0.005	< 0.005	2.34
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.32	8.74	14.3	0.02	0.09	—	0.09	0.08	—	0.08	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.32	8.74	14.3	0.02	0.09	—	0.09	0.08	—	0.08	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	6.24	10.2	0.02	0.06	—	0.06	0.06	—	0.06	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.14	1.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	0.07	1.16	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	230	230	< 0.005	0.01	0.92	234
Vendor	0.01	0.01	0.24	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	179	179	0.01	0.03	0.46	187
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	1.05	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	214	214	0.01	0.01	0.02	217
Vendor	0.01	0.01	0.26	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	179	179	0.01	0.03	0.01	187
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.06	0.72	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	155	155	< 0.005	0.01	0.28	157
Vendor	0.01	< 0.005	0.18	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.14	134
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.6	25.6	< 0.005	< 0.005	0.05	26.0
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.1	21.1	< 0.005	< 0.005	0.02	22.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.32	8.74	14.3	0.02	0.09	—	0.09	0.08	—	0.08	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.26	0.42	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	70.4	70.4	< 0.005	< 0.005	—	70.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.6	11.6	< 0.005	< 0.005	—	11.7

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	0.09	0.99	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	210	210	0.01	0.01	0.02	213
Vendor	0.01	0.01	0.24	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	175	175	0.01	0.03	0.01	183
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.24	6.24	< 0.005	< 0.005	0.01	6.33
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.14	5.14	< 0.005	< 0.005	0.01	5.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.03	1.03	< 0.005	< 0.005	< 0.005	1.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.89
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	7.21	10.6	0.01	0.09	—	0.09	0.08	—	0.08	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.39	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.55	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	117	117	< 0.005	0.01	0.01	119
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.47	6.47	< 0.005	< 0.005	0.01	6.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.07	1.07	< 0.005	< 0.005	< 0.005	1.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	1.07	0.96	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	181	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	—	9.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	—	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	42.1	42.1	< 0.005	< 0.005	< 0.005	42.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.33	2.33	< 0.005	< 0.005	< 0.005	2.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.79	1.70	1.17	9.12	0.02	0.02	1.78	1.80	0.02	0.45	0.47	—	2,059	2,059	0.11	0.11	6.45	2,101
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.36	0.34	0.23	1.83	< 0.005	< 0.005	0.36	0.36	< 0.005	0.09	0.09	—	413	413	0.02	0.02	1.30	422
Total	2.15	2.04	1.40	11.0	0.02	0.02	2.14	2.16	0.02	0.54	0.56	—	2,472	2,472	0.13	0.13	7.75	2,522
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.72	1.61	1.35	9.58	0.02	0.02	1.78	1.80	0.02	0.45	0.47	—	1,961	1,961	0.13	0.12	0.17	2,001
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.35	0.32	0.27	1.92	< 0.005	< 0.005	0.36	0.36	< 0.005	0.09	0.09	—	394	394	0.03	0.02	0.03	402
Total	2.07	1.94	1.62	11.5	0.02	0.02	2.14	2.16	0.02	0.54	0.56	—	2,355	2,355	0.16	0.14	0.20	2,403

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.30	0.29	0.23	1.59	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	319	319	0.02	0.02	0.45	326
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.06	0.05	0.04	0.29	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.02	—	58.7	58.7	< 0.005	< 0.005	0.08	59.9
Total	0.36	0.34	0.27	1.88	< 0.005	< 0.005	0.37	0.37	< 0.005	0.09	0.10	—	378	378	0.02	0.02	0.53	386

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	200	200	0.03	< 0.005	—	202
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	23.0	23.0	< 0.005	< 0.005	—	23.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	223	223	0.04	< 0.005	—	226
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	200	200	0.03	< 0.005	—	202
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	23.0	23.0	< 0.005	< 0.005	—	23.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	223	223	0.04	< 0.005	—	226
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	33.2	33.2	0.01	< 0.005	—	33.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	3.81	3.81	< 0.005	< 0.005	—	3.85
Total	—	—	—	—	—	—	—	—	—	—	—	—	37.0	37.0	0.01	< 0.005	—	37.3

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.49	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	—	617	617	0.05	< 0.005	—	618

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	0.01	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	62.0	62.0	0.01	< 0.005	—	62.2
Total	0.06	0.03	0.53	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	679	679	0.06	< 0.005	—	681
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.49	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	—	617	617	0.05	< 0.005	—	618
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	0.01	< 0.005	0.05	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	62.0	62.0	0.01	< 0.005	—	62.2
Total	0.06	0.03	0.53	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	679	679	0.06	< 0.005	—	681
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	102	102	0.01	< 0.005	—	102
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.3
Total	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	112	112	0.01	< 0.005	—	113

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.03	0.02	0.29	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	365	365	0.01	< 0.005	—	365
Consumer Products	—	5.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.33	0.31	0.03	3.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.56	9.56	< 0.005	< 0.005	—	9.59
Total	0.36	6.82	0.32	3.70	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	375	375	0.01	< 0.005	—	375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.03	0.02	0.29	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	365	365	0.01	< 0.005	—	365
Consumer Products	—	5.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.03	6.51	0.29	0.12	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	365	365	0.01	< 0.005	—	365
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.49	1.49	< 0.005	< 0.005	—	1.49

Consumer Products	—	1.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	0.03	< 0.005	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.78	0.78	< 0.005	< 0.005	—	0.78
Total	0.03	1.21	< 0.005	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.27	2.27	< 0.005	< 0.005	—	2.28

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.37	14.8	18.2	0.35	0.01	—	29.4
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.79	1.50	2.29	0.08	< 0.005	—	4.92
Total	—	—	—	—	—	—	—	—	—	—	—	4.17	16.3	20.5	0.43	0.01	—	34.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.37	14.8	18.2	0.35	0.01	—	29.4
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.79	1.50	2.29	0.08	< 0.005	—	4.92
Total	—	—	—	—	—	—	—	—	—	—	—	4.17	16.3	20.5	0.43	0.01	—	34.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.56	2.45	3.01	0.06	< 0.005	—	4.87
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.13	0.25	0.38	0.01	< 0.005	—	0.81
Total	—	—	—	—	—	—	—	—	—	—	—	0.69	2.70	3.39	0.07	< 0.005	—	5.68

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	17.3	0.00	17.3	1.73	0.00	—	60.5

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	4.80	0.00	4.80	0.48	0.00	—	16.8
Total	—	—	—	—	—	—	—	—	—	—	—	22.1	0.00	22.1	2.21	0.00	—	77.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	17.3	0.00	17.3	1.73	0.00	—	60.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	4.80	0.00	4.80	0.48	0.00	—	16.8
Total	—	—	—	—	—	—	—	—	—	—	—	22.1	0.00	22.1	2.21	0.00	—	77.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	2.86	0.00	2.86	0.29	0.00	—	10.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.79	0.00	0.79	0.08	0.00	—	2.78
Total	—	—	—	—	—	—	—	—	—	—	—	3.66	0.00	3.66	0.37	0.00	—	12.8

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.81	1.81
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.84	1.84
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.81	1.81
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.84	1.84
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.30	0.30
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.30	0.30

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2025	9/26/2025	5.00	20.0	—
Site Preparation	Site Preparation	9/29/2025	10/10/2025	5.00	10.0	—
Grading	Grading	10/13/2025	11/21/2025	5.00	30.0	—

Building Construction	Building Construction	11/24/2025	1/15/2027	5.00	300	—
Paving	Paving	1/18/2027	2/12/2027	5.00	20.0	—
Architectural Coating	Architectural Coating	2/15/2027	3/12/2027	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Tier 4 Interim	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	8.75	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	33.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	27.0	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	6.73	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	5.40	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	520,087	173,362	0.00	0.00	2,449

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)

Demolition	0.00	0.00	0.00	15,206	—
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	1,700	6,300	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	1.50

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.56	0%
Other Asphalt Surfaces	0.94	100%
Apartments Low Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	481	487	436	173,625	2,475	2,501	2,242	892,667
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	87.8	97.7	75.4	31,924	452	502	387	164,132

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	10
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	41
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	6
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	6
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
520086.82499999995	173,362	0.00	0.00	2,449

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	358,461	204	0.0330	0.0040	1,924,236
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00
Apartments Low Rise	41,163	204	0.0330	0.0040	193,426

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	1,759,676	3,060,616
Other Asphalt Surfaces	0.00	0.00
Apartments Low Rise	414,041	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	32.1	—
Other Asphalt Surfaces	0.00	—
Apartments Low Rise	8.91	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

8. User Changes to Default Data

Screen	Justification
Land Use	The land use types include: "Single family housing" for 51 homes over 10.8 acres (total acreage) "Parking - other asphalt surfaces" includes driveways and the interior street "Apartments Low Rise" was selected for the 12 ADU's, which is the land use type consistent with the traffic study conducted for the project
Construction: Off-Road Equipment	Tier 4 for all equipment as required by the City of Napa's General Plan, policy NRC 5-4.
Construction: Construction Phases	Updated CalEEMod construction calendar to reflect work done Monday - Friday.

Paving Haul Trip Calculation

On-Site Roads/Parking (sf)	65,300	(paved area in CalEEMod - Driveways + Interior Road)
Asphalt volume (cube feet) assume 6 inch pavement	32,650	
Asphalt volume (cy)	1,209	
Asphalt Density (ton/cy)	2.025	
Asphalt weight (ton)	2,449	
Capacity per vendor truck (ton per truck)	20	
Asphalt Vendor Deliveries (# of trucks)	122.4	
Days in paving phase	20	
Truck visits per day	7.000	
One-Way Trips per day	**14**	

[1] Source: Site Plans Dated 12/18/2023.

1 cubic yard of hot asphalt mix weighs 2.025 tons or 4050 lbs.

< 4 trips per day - not necessary to include in CalEEMod minimal emissions

Zinfandel Subdivision Project Construction HRA Inputs

Estimation of Annual Offsite Construction Emissions (Project Site) - PM10 Exhaust

Start of Construction	9/1/2025
End of Construction	3/12/2027
NetWork Days	400
Years	1.53
Total Working Hours	3,200

Construction		Off-Site Diesel PM10 Exhaust (lbs)			
Year		Haul	Vendor	Worker	Total
2025	Demolition	0.231	-	-	**0.23**
2025	Site Preparation	-	-	-	**-**
2025	Grading	1.323	-	-	**1.32**
2025	Building Construction	-	0.068	-	**0.07**
2026	Building Construction	-	0.650	-	**0.65**
2027	Building Construction	-	0.027	-	**0.03**
2027	Paving	-	-	-	**-**
2027	Architectural Coating	-	-	-	**-**
2025	Off-Site Improvements	-	-	-	**-**
2026	Off-Site Improvements	-	-	-	**-**
		1.55	0.74		**2.30**

Year	Haul	Vendor	Worker	Total
1: from 9/25 - 8/26	1.55	0.50	-	2.06
2: from 9/26 - 3/27	-	-	-	-
Total	1.55	0.74	-	2.30

CalEEMod Default Distance (miles)	**20**	**8.4**	**11.7**	**NA**

Vehicle Travel Distances in the Construction HRA (miles)	Haul	Vendor	Worker
Off-site Road Segment 1	0.23	0.23	0.23
Off-site Road Segment 2	0.29	0.29	0.29
Distance TOTAL	**0.51**	**0.51**	**0.51**

Trip Distribution (percent)	Haul	Vendor	Worker
Off-site Road Segment 1	100%	100%	100%
Off-site Road Segment 2	100%	100%	100%

(assume 100 % of vehicles could go on either haul route)

Total DPM in lbs	Haul	Vendor	Worker	Total (lbs)	
Off-site Road Segment 1	0.0175	0.0200	0	0.0375	<--ADMRT w/ 1 g/s <--ADMRT w/ 1 g/s
Off-site Road Segment 2	0.0222	0.0253	0	0.0475	<--ADMRT w/ 1 g/s <--ADMRT w/ 1 g/s
	0.0397	**0.0453**	**0**	0.0850	

Modeling Input	Source	Haul	Vendor	Worker	Total (lb/hr)	
AERMod Input	Off-site Road Segment 1	5.48E-06	6.25E-06	0.00E+00	1.17E-05	<-- AERMOD Direct
AERMod Input	Off-site Road Segment 2	6.93E-06	7.90E-06	0.00E+00	1.48E-05	<-- AERMOD Direct

Zinfandel Subdivision Project - Construction HRA Inputs

Offsite Construction Emissions - PM2.5 (PM2.5T includes Road Dust, Brake Wear and Tire Wear)

Start of Construction	9/1/2025
End of Construction	3/12/2027
NetWork Days	400
Years	1.53
2025 Hours	2088
2026 Hours	1112
Total Working Hours	3,200

Construction	On-site Construction	Off-Site PM2.5			
Year	Activity	Haul	Vendor	Worker	Total
2025	Demolition	1.03	-	0.56	**1.59**
2025	Site Preparation	-	-	0.33	**0.33**
2025	Grading	5.86	-	1.13	**6.99**
2025	Building Construction	-	0.42	1.38	**1.80**
2026	Building Construction	-	4.00	13.25	**17.24**
2027	Building Construction	-	0.16	0.54	**0.71**
2027	Paving	-	-	0.56	**0.56**
2027	Architectural Coating	-	-	0.20	**0.20**
2025	Off-Site	-	-	0.23	**0.23**
2026	Off-Site	-	-	0.16	**0.16**
	Total	6.89	4.58	18.35	**29.82**

Construction	On-site Construction	Off-Site PM2.5			
Year 1	Activity	Haul	Vendor	Worker	Total
2025	Demolition	1.03	-	0.56	**1.59**
2025	Site Preparation	-	-	0.33	**0.33**
2025	Grading	5.86	-	1.13	**6.99**
2025	Building Construction	-	0.42	1.38	**1.80**
2026	Building Construction	-	2.67	8.83	**11.50**
2027	Building Construction				
2027	Paving				
2027	Architectural Coating				
2025	Off-Site	-	-	0.23	**0.23**
2026	Off-Site	-	-	0.16	**0.16**
	Total	6.89	3.08	12.63	**22.60**

Construction	On-site Construction	Off-Site PM2.5T			
Year 2	Activity	Haul	Vendor	Worker	Total
2025	Demolition				
2025	Site Preparation				
2025	Grading				
2025	Building Construction				
2026	Building Construction	-	1.33	4.41	**5.74**
2027	Building Construction	-	0.16	0.54	**0.71**
2027	Paving	-	-	0.56	**0.56**
2027	Architectural Coating	-	-	0.20	**0.20**
2025	Off-Site				
2026	Off-Site				
	Total	-	1.50	5.72	**7.22**

Year	Haul	Vendor	Worker	lbs
Year 1	6.89	3.08	12.63	22.60
Year 2	-	1.50	5.72	7.22
Total	6.89	4.58	18.35	29.82

CalEEMod Default Distance (miles)	**20**	**8.4**	**11.7**	**NA**

Vehicle Travel Distances in the Construction HRA (miles)	Haul	Vendor	Worker
Road Segment 1	0.23	0.23	0.23
Road Segment 2	0.29	0.29	0.29
Distance Total (mile)	**0.51**	**0.51**	**0.51**

Trip Distribution (percent)	Haul	Vendor	Worker
Off-site Road Segment 1	100%	100%	100%
Off-site Road Segment 2	100%	100%	100%

Maximum Year (Year 1)	Haul	Vendor	Worker	lbs	
Road Segment 1	0.078	0.083	0.243	0.160	<--ADMRT w/ 1 g/s
Road Segment 2	0.098	0.105	0.308	0.203	<--ADMRT w/ 1 g/s
	0.1759	**0.1874**	**0.5512**	0.3633	

Modeling Input	Source	Haul	Vendor	Worker	lb/yr	
AERMod Input	Off-site Road Segment 1	3.72E-05	3.96E-05	1.17E-04	7.68E-05	<-- AERMOD Direct
AERMod Input	Off-site Road Segment 2	4.71E-05	5.01E-05	1.47E-04	9.72E-05	<-- AERMOD Direct

Zinfandel Subdivision Project - Construction HRA Inputs

Offsite Construction Emissions - PM2.5 (PM2.5T includes Road Dust, Brake Wear and Tire Wear)

Start of Construction	9/1/2025
End of Construction	3/12/2027
NetWork Days	400
Years	1.53
2025 Hours	2088
2026 Hours	1112
Total Working Hours	3,200

Construction	On-site Construction	Off-Site PM2.5			
Year	Activity	Haul	Vendor	Worker	Total
2025	Demolition	1.03	-	0.56	**1.59**
2025	Site Preparation	-	-	0.33	**0.33**
2025	Grading	5.86	-	1.13	**6.99**
2025	Building Construction	-	0.42	1.38	**1.80**
2026	Building Construction	-	4.00	13.25	**17.24**
2027	Building Construction	-	0.16	0.54	**0.71**
2027	Paving	-	-	0.56	**0.56**
2027	Architectural Coating	-	-	0.20	**0.20**
2025	Off-Site	-	-	0.23	**0.23**
2026	Off-Site	-	-	0.16	**0.16**
	Total	6.89	4.58	18.35	**29.82**

Construction	On-site Construction	Off-Site PM2.5			
Year 1	Activity	Haul	Vendor	Worker	Total
2025	Demolition	1.03	-	0.56	**1.59**
2025	Site Preparation	-	-	0.33	**0.33**
2025	Grading	5.86	-	1.13	**6.99**
2025	Building Construction	-	0.42	1.38	**1.80**
2026	Building Construction	-	2.67	8.83	**11.50**
2027	Building Construction				
2027	Paving				
2027	Architectural Coating				
2025	Off-Site	-	-	0.23	**0.23**
2026	Off-Site	-	-	0.16	**0.16**
	Total	6.89	3.08	12.63	**22.60**

Construction	On-site Construction	Off-Site PM2.5T			
Year 2	Activity	Haul	Vendor	Worker	Total
2025	Demolition				
2025	Site Preparation				
2025	Grading				
2025	Building Construction				
2026	Building Construction	-	1.33	4.41	**5.74**
2027	Building Construction	-	0.16	0.54	**0.71**
2027	Paving	-	-	0.56	**0.56**
2027	Architectural Coating	-	-	0.20	**0.20**
2025	Off-Site				
2026	Off-Site				
	Total	-	1.50	5.72	**7.22**

Year	Haul	Vendor	Worker	lbs
Year 1	6.89	3.08	12.63	22.60
Year 2	-	1.50	5.72	7.22
Total	6.89	4.58	18.35	29.82

CalEEMod Default Distance (miles)	**20**	**8.4**	**11.7**	**NA**

Vehicle Travel Distances in the Construction HRA (miles)	Haul	Vendor	Worker
Road Segment 1	0.23	0.23	0.23
Road Segment 2	0.29	0.29	0.29
Distance Total (mile)	**0.51**	**0.51**	**0.51**

Trip Distribution (percent)	Haul	Vendor	Worker
Off-site Road Segment 1	100%	100%	100%
Off-site Road Segment 2	100%	100%	100%

Maximum Year (Year 1)	Haul	Vendor	Worker	lbs	
Road Segment 1	0.078	0.083	0.243	0.160	<--ADMRT w/ 1 g/s
Road Segment 2	0.098	0.105	0.308	0.203	<--ADMRT w/ 1 g/s
	0.1759	**0.1874**	**0.5512**	0.3633	

Modeling Input	Source	Haul	Vendor	Worker	lb/yr	
AERMod Input	Off-site Road Segment 1	3.72E-05	3.96E-05	1.17E-04	7.68E-05	<-- AERMOD Direct
AERMod Input	Off-site Road Segment 2	4.71E-05	5.01E-05	1.47E-04	9.72E-05	<-- AERMOD Direct

Zinfandel Subdivision Project Construction HRA Inputs

Estimation of Annual Onsite Construction Emissions (Project Site) - PM2.5T

Start of Construction	9/1/2025
End of Construction	3/12/2027
Site Area (m^2)	38820
NetWork Days	400
Years	1.55
Year 1 Hours	2088
Year 2 Hours	1112
Total Working Hours	3,000

Emissions in lbs

Year	Activity	Onsite PM2.5T	Off-Road Eqpt Exhaust	Demolition Dust	Dust from Material Movement	On-Site Trucks
2025	Demolition	5.31	3.79	1.517	-	-
2025	Site Preparation	40.40	1.00	-	39.400	-
2025	Grading	48.10	5.31	-	42.789	-
2025	Building Construction	2.26	2.26	-	-	-
2026	Building Construction	21.72	21.72	-	-	-
2027	Building Construction	0.89	0.89	-	-	-
2027	Paving	1.62	1.62	-	-	-
2027	Architectural Coating	0.56	0.56	-	-	-
2025	Off-Site	2.56	2.56	-	-	-
2026	Off-Site	0.79	0.79	-	-	-
		124.22	**40.51**	**1.52**	**82.19**	**0.00**

Year 1 Emissions	Activity	PM2.5 (lb)	
2025	Demolition	5.31	
2025	Site Preparation	40.40	
2025	Grading	48.10	
2025	Building Construction	2.26	
2026	Building Construction	14.49	
2027	Building Construction	0.00	
2027	Paving	0.00	
2027	Architectural Coating	0.00	
2025	Off-Site	2.56	
2026	Off-Site	0.79	
	Total	113.90	<--ADMRT w/ 1 g/s
AERMOD Input	Hourly lb/hr	0.05	<-- AERMOD Direct
HARP-ADMRT	Annualized (lb/yr)	113.90	

Year 2 Emissions	Activity	PM2.5 (lbs)
2025	Demolition	0.00
2025	Site Preparation	0.00
2025	Grading	0.00
2025	Building Construction	0.00
2026	Building Construction	7.25
2027	Building Construction	0.89
2027	Paving	1.62
2027	Architectural Coating	0.56
2025	Off-Site	0.00
2026	Off-Site	0.00
	Total	10.33
	Annualized (lb/yr)	18.79

Control Pathway

AERMOD

Dispersion Options

Titles

Napa Zinfadel Subdivision
DPM Construction HRA

Dispersion Options

☑ Regulatory Default ☐ Non-Default Options

Dispersion Coefficient

Urban

Population:
Name (Optional):
Roughness Length:

Output Type

☑ Concentration
☐ Total Deposition (Dry & Wet)
☐ Dry Deposition
☐ Wet Deposition

Plume Depletion

☐ Dry Removal
☐ Wet Removal

Output Warnings

☐ No Output Warnings
☐ Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

PM10

Averaging Time Options

Hours ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 6 ☐ 8 ☐ 12 ☐ 24

☐ Month ☑ Period ☐ Annual

Exponential Decay

Half-life of 4 hrs will be used

Terrain Height Options

☐ Flat ☑ Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

☐ Yes ☑ No

Default Height = 0.00 m

Control Pathway

Optional Files

Re-Start File	Init File	Multi-Year Analyses	Event Input File	Error Listing File
☐	☐	☐	☐	■

Detailed Error Listing File

Filename: ConHRA.err

Source Pathway - Source Inputs

Polygon Area Sources

Source Type: AREA POLY

Source: SITE (Constuction Site)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
21.94	5.00	4.36E-8	1.40	11	559715.23	4243254.83
		4.36E-8			559821.25	4243286.02
		4.36E-8			559834.57	4243243.36
		4.36E-8			559885.60	4243258.87
		4.36E-8			559862.87	4243299.64
		4.36E-8			559928.91	4243320.45
		4.36E-8			560069.81	4243092.44
		4.36E-8			560000.09	4243077.24
		4.36E-8			559956.39	4243146.22
		4.36E-8			559853.92	4243143.74
		4.36E-8			559774.86	4243161.13

Line Volume Sources

Source Type: LINE VOLUME

Source: HAUL1 (El Centro Avenue - East of the Site)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
13.00	1.47E-6		559873.23	4243307.91	21.68	3.40
			560218.87	4243418.21	20.75	3.40

Source Type: LINE VOLUME

Source: HAUL2 (El Centro Avenue - West of the Site)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
13.00	1.86E-6		559856.43	4243304.24	21.73	3.40
			559419.54	4243171.69	23.17	3.40
			559421.97	4243171.69	23.09	3.40

Source Pathway - Source Inputs

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL1	L0000126	559879.42	4243309.88	21.69	3.40	5.26E-8	13.00		6.05	3.16
	L0000127	559891.81	4243313.83	21.67	3.40	5.26E-8	13.00		6.05	3.16
	L0000128	559904.19	4243317.79	21.66	3.40	5.26E-8	13.00		6.05	3.16
	L0000129	559916.58	4243321.74	21.61	3.40	5.26E-8	13.00		6.05	3.16
	L0000130	559928.96	4243325.69	21.58	3.40	5.26E-8	13.00		6.05	3.16
	L0000131	559941.35	4243329.64	21.58	3.40	5.26E-8	13.00		6.05	3.16
	L0000132	559953.73	4243333.60	21.51	3.40	5.26E-8	13.00		6.05	3.16
	L0000133	559966.12	4243337.55	21.48	3.40	5.26E-8	13.00		6.05	3.16
	L0000134	559978.50	4243341.50	21.52	3.40	5.26E-8	13.00		6.05	3.16
	L0000135	559990.89	4243345.45	21.52	3.40	5.26E-8	13.00		6.05	3.16
	L0000136	560003.27	4243349.41	21.50	3.40	5.26E-8	13.00		6.05	3.16
	L0000137	560015.66	4243353.36	21.47	3.40	5.26E-8	13.00		6.05	3.16
	L0000138	560028.04	4243357.31	21.34	3.40	5.26E-8	13.00		6.05	3.16
	L0000139	560040.42	4243361.26	21.28	3.40	5.26E-8	13.00		6.05	3.16
	L0000140	560052.81	4243365.21	21.36	3.40	5.26E-8	13.00		6.05	3.16
	L0000141	560065.19	4243369.17	21.41	3.40	5.26E-8	13.00		6.05	3.16
	L0000142	560077.58	4243373.12	21.44	3.40	5.26E-8	13.00		6.05	3.16
	L0000143	560089.96	4243377.07	21.36	3.40	5.26E-8	13.00		6.05	3.16
	L0000144	560102.35	4243381.02	21.29	3.40	5.26E-8	13.00		6.05	3.16
	L0000145	560114.73	4243384.98	21.20	3.40	5.26E-8	13.00		6.05	3.16
	L0000146	560127.12	4243388.93	21.21	3.40	5.26E-8	13.00		6.05	3.16
	L0000147	560139.50	4243392.88	21.19	3.40	5.26E-8	13.00		6.05	3.16
	L0000148	560151.89	4243396.83	21.07	3.40	5.26E-8	13.00		6.05	3.16
	L0000149	560164.27	4243400.79	21.04	3.40	5.26E-8	13.00		6.05	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL1	L0000150	560176.66	4243404.74	21.04	3.40	5.26E-8	13.00		6.05	3.16
	L0000151	560189.04	4243408.69	20.90	3.40	5.26E-8	13.00		6.05	3.16
	L0000152	560201.42	4243412.64	20.82	3.40	5.26E-8	13.00		6.05	3.16
	L0000153	560213.81	4243416.60	20.78	3.40	5.26E-8	13.00		6.05	3.16

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL2	L0000154	559850.21	4243302.35	21.77	3.40	5.33E-8	13.00		6.05	3.16
	L0000155	559837.77	4243298.58	21.86	3.40	5.33E-8	13.00		6.05	3.16
	L0000156	559825.33	4243294.81	21.85	3.40	5.33E-8	13.00		6.05	3.16
	L0000157	559812.89	4243291.03	21.89	3.40	5.33E-8	13.00		6.05	3.16
	L0000158	559800.45	4243287.26	21.92	3.40	5.33E-8	13.00		6.05	3.16
	L0000159	559788.01	4243283.48	21.94	3.40	5.33E-8	13.00		6.05	3.16
	L0000160	559775.57	4243279.71	21.99	3.40	5.33E-8	13.00		6.05	3.16
	L0000161	559763.13	4243275.93	22.03	3.40	5.33E-8	13.00		6.05	3.16
	L0000162	559750.69	4243272.16	22.04	3.40	5.33E-8	13.00		6.05	3.16
	L0000163	559738.25	4243268.39	21.99	3.40	5.33E-8	13.00		6.05	3.16
	L0000164	559725.81	4243264.61	22.00	3.40	5.33E-8	13.00		6.05	3.16
	L0000165	559713.37	4243260.84	22.02	3.40	5.33E-8	13.00		6.05	3.16
	L0000166	559700.93	4243257.06	22.01	3.40	5.33E-8	13.00		6.05	3.16
	L0000167	559688.49	4243253.29	22.05	3.40	5.33E-8	13.00		6.05	3.16
	L0000168	559676.05	4243249.52	22.07	3.40	5.33E-8	13.00		6.05	3.16
	L0000169	559663.61	4243245.74	22.11	3.40	5.33E-8	13.00		6.05	3.16
	L0000170	559651.17	4243241.97	22.14	3.40	5.33E-8	13.00		6.05	3.16
	L0000171	559638.73	4243238.19	22.22	3.40	5.33E-8	13.00		6.05	3.16
	L0000172	559626.29	4243234.42	22.28	3.40	5.33E-8	13.00		6.05	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL2	L0000173	559613.85	4243230.64	22.31	3.40	5.33E-8	13.00		6.05	3.16
	L0000174	559601.41	4243226.87	22.38	3.40	5.33E-8	13.00		6.05	3.16
	L0000175	559588.97	4243223.10	22.46	3.40	5.33E-8	13.00		6.05	3.16
	L0000176	559576.53	4243219.32	22.47	3.40	5.33E-8	13.00		6.05	3.16
	L0000177	559564.09	4243215.55	22.44	3.40	5.33E-8	13.00		6.05	3.16
	L0000178	559551.65	4243211.77	22.38	3.40	5.33E-8	13.00		6.05	3.16
	L0000179	559539.21	4243208.00	22.38	3.40	5.33E-8	13.00		6.05	3.16
	L0000180	559526.77	4243204.22	22.34	3.40	5.33E-8	13.00		6.05	3.16
	L0000181	559514.33	4243200.45	22.31	3.40	5.33E-8	13.00		6.05	3.16
	L0000182	559501.89	4243196.68	22.33	3.40	5.33E-8	13.00		6.05	3.16
	L0000183	559489.45	4243192.90	22.44	3.40	5.33E-8	13.00		6.05	3.16
	L0000184	559477.01	4243189.13	22.58	3.40	5.33E-8	13.00		6.05	3.16
	L0000185	559464.57	4243185.35	22.71	3.40	5.33E-8	13.00		6.05	3.16
	L0000186	559452.13	4243181.58	22.80	3.40	5.33E-8	13.00		6.05	3.16
	L0000187	559439.69	4243177.80	22.89	3.40	5.33E-8	13.00		6.05	3.16
	L0000188	559427.25	4243174.03	23.06	3.40	5.33E-8	13.00		6.05	3.16

Source Pathway

Building Downwash Information

Option not in use

Emission Rate Units for Output

For Concentration

Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

Source Groups

Source Group ID: DPM	List of Sources in Group (Source Range or Single Sources)
	SITE
	HAUL1
	HAUL2

Variable Emissions

Hour-of-Day / Day-of-Week Emission Rate Variation

Scenario: Scenario 2

Source ID:	**SITE**							
Weekdays								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	1.00	1.00	1.00	1.00	
	13 - 18	0.00	1.00	1.00	1.00	1.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Saturday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Sunday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Source ID:	**HAUL1**							
Weekdays								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	1.00	1.00	1.00	1.00	
	13 - 18	0.00	1.00	1.00	1.00	1.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Saturday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Sunday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Source ID:	**HAUL2**							
Weekdays								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	1.00	1.00	1.00	1.00	
	13 - 18	0.00	1.00	1.00	1.00	1.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Saturday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	
Sunday								
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00	
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00	
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00	
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00	

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	559786.01	4243494.30	R	23.25	
2	559570.86	4243381.48	R	23.01	
3	559565.87	4242975.51	R	22.84	
4	559511.05	4243435.34	R	23.28	
5	560032.27	4242845.32	R	20.66	
6	559795.41	4243066.26	R	21.40	
7	559721.96	4243433.92	R	22.80	
8	559659.31	4242922.17	R	22.39	
9	559877.27	4242873.72	R	21.29	
10	559574.83	4243020.19	R	22.22	
11	559743.33	4243332.91	R	22.82	
12	559869.06	4242898.59	R	21.65	
13	560006.74	4243008.25	R	21.03	
14	560066.78	4243502.16	R	22.03	
15	559836.76	4243382.94	R	22.22	
16	560083.40	4243004.76	R	20.64	
17	560021.71	4242979.31	R	20.70	
18	560055.05	4242907.46	R	20.57	
19	559616.83	4243316.29	N	22.74	
20	560008.87	4243388.83	R	22.19	
21	560034.04	4243261.70	R	21.59	
22	560206.20	4243382.97	R	21.00	
23	559831.45	4242864.27	R	21.47	
24	560156.29	4242959.68	R	20.39	
25	560001.86	4243313.68	R	21.80	
26	559504.32	4243463.10	R	23.99	
27	560143.42	4243458.54	R	21.67	
28	559680.13	4242897.87	R	22.01	
29	560230.00	4243053.97	R	20.29	
30	560119.61	4243496.80	R	21.98	

31	559805.07	4243412.79	R	22.37
32	560111.74	4243546.12	R	22.35
33	559861.62	4243463.76	R	22.39
34	560236.03	4243399.06	R	21.26
35	559642.88	4243093.46	R	21.91
36	559745.12	4242871.68	R	22.28
37	560207.57	4242848.73	R	19.74
38	560110.43	4243344.11	R	21.62
39	559566.84	4243075.29	R	22.17
40	560022.44	4243196.30	R	21.21
41	560236.67	4243105.01	R	20.27
42	559582.48	4243444.21	R	22.92
43	559759.51	4243308.54	R	22.53
44	559859.74	4243332.25	R	21.92
45	559538.00	4243477.04	R	24.06
46	559527.04	4243344.16	R	22.89
47	559564.93	4243357.00	R	22.82
48	560060.28	4242993.23	R	20.61
49	559704.45	4243426.69	R	22.73
50	559722.16	4243107.71	R	21.51
51	559584.64	4243294.82	R	22.60
52	559940.77	4242913.90	R	21.46
53	559554.06	4243238.34	R	22.53
54	559618.39	4242914.99	R	22.75
55	559988.12	4243058.62	R	21.13
56	559666.30	4243195.51	R	21.99
57	559984.32	4242996.74	R	21.00
58	559742.03	4243384.37	R	22.87
59	559797.87	4242883.35	R	21.85
60	560103.63	4242860.49	R	20.38
61	559607.28	4243463.91	R	23.20
62	559711.85	4243384.50	R	22.75
63	560175.96	4243042.52	R	20.40
64	560244.37	4243026.44	R	20.03
65	559851.41	4243499.65	R	22.53
66	559733.46	4243054.66	R	21.50
67	560226.61	4243022.68	R	20.17
68	559833.87	4242934.19	N	21.46

69	559630.13	4243424.04	R	23.07
70	559547.54	4243400.52	R	23.07
71	559694.89	4243503.94	R	23.52
72	559601.09	4243411.18	R	22.74
73	560139.26	4242868.10	R	20.32
74	559851.04	4242894.73	R	21.69
75	560192.81	4242967.45	R	20.25
76	560150.83	4243221.88	R	20.68
77	559487.61	4243456.20	R	23.84
78	560026.90	4243012.56	R	20.97
79	560249.21	4243058.37	R	20.15
80	559686.93	4243326.07	R	22.89
81	560003.70	4242975.52	R	20.78
82	559730.62	4243527.93	R	23.49
83	560196.43	4243349.59	R	20.64
84	559614.50	4243329.88	N	22.66
85	559514.28	4243074.03	N	22.78
86	560041.75	4243032.06	R	20.80
87	559500.73	4243432.56	R	23.36
88	559619.52	4243439.51	R	23.09
89	560010.30	4243299.81	R	21.77
90	559586.71	4243079.99	R	22.14
91	560210.92	4242971.31	R	20.16
92	559762.73	4242840.41	R	21.81
93	559511.01	4243133.55	R	22.58
94	560244.65	4243370.08	R	21.27
95	559578.23	4242978.08	R	22.62
96	560157.65	4242872.05	R	20.26
97	559680.10	4242903.04	R	22.10
98	559969.76	4243054.81	R	21.08
99	560030.33	4243183.00	R	21.21
100	559513.95	4243409.22	R	23.24
101	559535.34	4243395.75	R	23.13
102	560047.88	4243296.78	R	21.64
103	560014.58	4242841.32	R	20.69
104	559813.64	4243062.30	R	21.37
105	560019.78	4242899.99	R	20.56
106	559880.71	4243433.23	R	22.01

107	560147.06	4243084.52	R	20.42
108	560200.50	4243096.88	R	20.26
109	559787.28	4243303.30	R	22.16
110	559639.89	4243408.22	R	22.97
111	560208.80	4243018.87	R	20.24
112	560211.95	4243050.13	R	20.38
113	559655.45	4243269.31	R	22.49
114	560155.12	4243007.47	R	20.44
115	559974.13	4243273.88	R	21.70
116	559966.28	4243286.48	R	21.77
117	559859.18	4243487.27	R	22.45
118	560050.20	4242849.13	R	20.63
119	559669.73	4243445.42	R	23.27
120	559780.78	4243314.63	R	22.23
121	560126.74	4242922.65	R	20.38
122	559669.44	4243159.44	R	21.96
123	560182.63	4243092.74	R	20.40
124	560130.45	4243312.04	R	21.49
125	559666.65	4242971.22	R	22.58
126	559545.43	4243369.17	R	22.97
127	559944.35	4242998.73	R	21.11
128	560073.20	4242911.31	R	20.50
129	560153.51	4243440.10	R	21.73
130	559874.43	4243472.18	R	22.37
131	560126.93	4243411.12	R	21.64
132	560192.42	4243476.59	R	21.09
133	560263.87	4243030.77	R	20.07
134	559575.50	4243459.11	R	23.07
135	559884.97	4243336.55	R	21.91
136	559547.08	4243449.24	R	23.11
137	560232.64	4243285.22	R	21.02
138	559681.42	4243220.92	R	22.07
139	560059.81	4243277.66	R	21.47
140	559759.24	4243480.65	R	23.39
141	559723.31	4243467.55	R	23.48
142	559803.70	4242927.76	R	21.61
143	559668.85	4243361.59	R	22.85
144	559838.37	4243422.81	R	22.35

145	559481.02	4243377.83	R	23.19
146	560085.99	4243333.12	R	21.69
147	560122.64	4243031.19	R	20.62
148	559909.08	4242991.33	R	21.27
149	559635.41	4243295.63	N	22.87
150	560082.85	4243182.55	R	21.48
151	560026.47	4243273.87	R	21.68
152	559763.96	4243115.31	R	21.47
153	560228.73	4242975.13	R	20.13
154	559658.61	4242941.50	R	22.53
155	559652.99	4243155.17	R	21.93
156	560180.29	4242934.00	R	20.21
157	559919.23	4243112.07	R	21.24
158	559561.90	4243407.04	R	23.06
159	560066.06	4243258.49	R	21.49
160	560104.03	4243028.33	R	20.66
161	559714.92	4243508.14	R	23.48
162	560287.11	4243076.13	R	20.14
163	559593.51	4242939.22	N	22.26
164	560137.29	4243003.72	R	20.49
165	560016.73	4243374.17	R	21.98
166	559852.30	4243426.93	R	22.29
167	560210.86	4242883.43	R	19.96
168	560063.81	4243350.03	R	21.90
169	560175.37	4242875.83	R	20.28
170	559572.24	4243408.41	R	22.92
171	560289.73	4242866.02	R	19.58
172	560190.95	4243015.10	R	20.18
173	560042.19	4243248.68	R	21.41
174	560171.87	4243501.91	R	21.19
175	560035.95	4243315.89	R	21.78
176	559534.50	4243443.22	R	23.12
177	559611.09	4243172.89	R	22.13
178	559590.27	4242980.32	R	22.58
179	559483.08	4243211.67	R	22.64
180	560018.87	4243286.10	R	21.68
181	559668.43	4243038.89	R	21.73
182	560094.13	4243464.58	R	21.89

183	560164.92	4243088.63	R	20.45
184	560069.36	4243193.45	R	21.16
185	560264.06	4242982.67	R	20.07
186	560271.09	4243330.47	R	20.78
187	560129.33	4243080.45	R	20.54
188	560004.29	4243066.11	R	21.17
189	559678.67	4243500.87	R	23.41
190	559529.72	4243122.54	R	22.55
191	560146.09	4243373.84	R	21.56
192	559520.39	4243075.55	N	22.81
193	559595.24	4243422.83	R	22.79
194	559995.45	4242925.34	R	20.99
195	560074.29	4243556.98	R	22.21
196	559717.72	4243283.37	R	22.75
197	559653.02	4242994.55	R	22.68
198	559999.37	4243405.37	R	22.33
199	560107.55	4243515.23	R	22.06
200	559993.18	4243327.71	R	21.78
201	559934.80	4243047.28	R	21.13
202	559811.42	4243484.38	R	22.67
203	559845.75	4243519.67	R	22.99
204	559622.50	4243303.19	N	22.83
205	560064.65	4243208.96	R	21.30
206	560138.58	4242955.92	R	20.55
207	559559.74	4243141.43	R	22.22
208	559705.94	4243460.33	R	23.36
209	559788.55	4243545.94	R	22.98
210	559732.29	4243210.19	R	21.87
211	559859.68	4243272.73	R	21.96
212	559846.60	4242967.52	N	21.39
213	560039.67	4242983.12	R	20.62
214	559506.40	4243222.22	R	22.63
215	559665.72	4243304.28	N	22.84
216	559760.85	4243391.21	R	22.97
217	559949.70	4243313.61	R	21.82
218	559843.86	4243067.26	R	21.35
219	559605.73	4243084.52	R	21.97
220	560037.35	4242903.71	R	20.61

221	559797.40	4243425.18	R	22.39
222	559693.80	4243047.03	R	21.60
223	559494.14	4243351.45	R	23.14
224	560091.32	4242915.15	R	20.47
225	559779.68	4242879.26	R	21.89
226	560262.80	4243102.67	R	20.21
227	560126.53	4243248.01	R	20.95
228	559603.09	4243018.43	R	22.00
229	559945.02	4242884.23	R	20.99
230	559881.01	4243396.49	R	22.01
231	560103.35	4242948.37	R	20.63
232	559926.25	4242994.92	R	21.28
233	559879.01	4243067.28	R	21.30
234	560140.65	4243035.02	R	20.60
235	559574.96	4243359.14	R	22.76
236	559661.70	4243097.97	R	21.89
237	560121.38	4242864.28	R	20.40
238	559641.23	4242991.51	R	22.55
239	559905.19	4242906.30	R	21.52
240	559602.36	4243186.39	R	22.32
241	559558.00	4243376.08	R	23.04
242	559539.50	4243070.01	N	22.94
243	559594.65	4243157.12	R	22.12
244	559606.93	4243399.53	R	22.66
245	560200.82	4243286.38	R	21.42
246	559609.81	4242912.60	R	22.76
247	559613.32	4243392.47	R	22.63
248	559966.56	4243412.40	R	22.36
249	559488.81	4243171.84	R	22.66
250	560094.07	4243082.68	R	20.71
251	559820.86	4243473.23	R	22.55
252	559572.31	4243491.25	R	23.91
253	560050.16	4243235.88	R	21.35
254	560049.26	4242936.82	R	20.90
255	559653.33	4242897.54	R	22.23
256	560089.56	4243541.85	R	22.33
257	559522.34	4243438.95	R	23.22
258	559589.44	4243498.34	R	23.89

259	559506.37	4243141.18	R	22.60
260	559477.22	4243423.86	R	23.41
261	559630.97	4243209.04	R	22.30
262	560090.76	4242857.74	R	20.47
263	559639.51	4243194.53	R	22.15
264	559621.24	4242960.62	R	22.42
265	559960.74	4243373.51	R	22.29
266	559840.93	4243112.67	R	21.48
267	560120.95	4242952.12	R	20.51
268	560081.77	4243478.05	R	22.00
269	559833.15	4242890.91	R	21.70
270	559550.37	4243027.43	R	22.74
271	559800.27	4243501.47	R	23.10
272	559911.22	4243362.15	R	21.86
273	559898.71	4243069.31	R	21.24
274	559789.19	4242849.75	R	21.66
275	560101.00	4242997.59	R	20.66
276	560014.49	4243209.03	R	21.27
277	559686.44	4243164.08	R	21.94
278	559971.49	4243359.60	R	22.01
279	559878.81	4242870.01	R	21.25
280	559915.15	4242958.34	R	21.16
281	560109.17	4242918.93	R	20.45
282	559742.15	4243475.52	R	23.51
283	559608.18	4243345.74	N	22.56
284	559555.48	4243484.26	R	23.96
285	560228.42	4242887.79	R	19.98
286	560120.44	4243328.08	R	21.53
287	559707.55	4243299.61	R	22.79
288	559624.31	4243088.98	R	21.95
289	560199.63	4243265.81	R	21.32
290	559678.82	4243345.64	R	22.89
291	560189.90	4242844.96	R	19.86
292	560055.64	4243523.11	R	22.20
293	559605.56	4243501.90	R	23.87
294	560174.52	4242963.54	R	20.23
295	560147.49	4243516.87	R	21.86
296	560099.40	4243152.28	R	21.32

297	560037.58	4243553.60	R	22.37
298	559616.11	4243155.70	R	21.96
299	559754.89	4243059.40	R	21.39
300	559678.96	4243269.79	R	22.37
301	559766.41	4242842.20	R	21.80
302	560044.57	4243425.90	S	22.10
303	559647.38	4243034.30	R	21.87
304	559563.06	4243425.66	R	23.03
305	559775.09	4243061.55	R	21.39
306	559806.84	4242859.00	R	21.62
307	560285.80	4243332.87	R	20.78
308	560130.03	4243515.42	R	22.01
309	560145.76	4243253.99	R	20.95
310	559980.41	4243014.69	R	20.87
311	559648.75	4242920.59	R	22.55
312	560251.21	4243288.66	R	20.72
313	560288.53	4242956.90	R	19.73
314	559931.70	4242961.72	R	21.04
315	560155.99	4243357.71	R	21.62
316	560247.12	4242892.24	R	19.82
317	559775.37	4243540.43	R	23.05
318	559913.34	4243405.61	R	22.04
319	559850.12	4242867.93	R	21.39
320	560144.42	4242926.41	R	20.24
321	559513.32	4243340.86	R	22.97
322	559502.22	4243334.92	R	22.97
323	560252.01	4243331.87	R	20.86
324	559851.42	4243387.49	R	22.20
325	559522.64	4243361.02	R	23.07
326	560283.21	4242898.49	R	19.80
327	559812.98	4243320.90	R	22.19
328	559598.83	4243264.82	R	22.61
329	559959.65	4242917.97	R	21.13
330	560108.44	4243133.81	R	21.19
331	559634.23	4243149.21	R	21.90
332	560104.42	4243447.11	R	21.68
333	560252.38	4242949.27	R	19.96
334	560086.20	4243320.10	R	21.53

335	560176.65	4243489.06	R	21.26
336	559593.90	4243200.59	R	22.48
337	559997.26	4243327.06	R	21.81
338	559900.63	4242874.70	R	21.16
339	559998.37	4243234.95	R	21.55
340	559958.23	4243299.37	R	21.82
341	559860.88	4243065.38	R	21.41
342	560041.68	4243015.38	R	20.81
343	560166.20	4243260.44	R	20.89
344	559546.41	4242996.96	R	23.10
345	559747.98	4243531.28	R	23.43
346	559680.02	4242925.28	R	22.35
347	559659.02	4243377.45	R	22.87
348	560067.32	4242940.68	R	20.61
349	559623.72	4242916.16	R	22.76
350	560162.04	4242930.17	R	20.34
351	559952.11	4243387.99	R	22.36
352	559787.75	4243464.28	R	22.71
353	559887.34	4242902.48	R	21.56
354	559986.00	4242971.80	R	20.95
355	560216.80	4242941.73	R	20.05
356	559610.73	4242984.67	R	22.67
357	559922.93	4242879.50	R	21.05
358	559688.77	4243453.18	R	23.28
359	560193.03	4242879.61	R	20.12
360	559625.67	4243029.52	R	21.91
361	560001.31	4242896.31	R	20.66
362	559629.05	4242917.93	R	22.76
363	559509.07	4243356.24	R	23.11
364	559815.55	4243120.26	R	21.51
365	559767.87	4243349.84	R	22.46
366	559728.76	4242965.65	N	21.92
367	560282.25	4242986.58	R	20.03
368	559723.64	4243552.62	R	23.48
369	559667.47	4243527.36	R	23.43
370	559762.60	4243535.19	R	23.13
371	559669.66	4242923.72	R	22.35
372	559774.75	4243455.90	R	22.69

373	559632.19	4243355.95	N	22.50
374	560249.82	4242849.85	R	19.41
375	559740.32	4243108.90	R	21.51
376	560006.38	4243222.10	R	21.46
377	559834.09	4242860.52	R	21.42
378	559832.97	4243326.95	R	22.06
379	560270.19	4242953.05	R	19.90
380	559950.16	4242965.46	R	20.86
381	560165.68	4243342.20	R	21.56
382	559965.65	4243108.99	R	21.11
383	560014.01	4242929.30	R	20.97
384	559652.94	4243215.07	R	22.21
385	559683.14	4243100.08	R	21.67
386	559632.12	4242989.18	R	22.52
387	559820.79	4243381.68	R	22.36
388	559698.69	4243540.70	R	23.65
389	560226.00	4242852.63	R	19.66
390	559621.49	4242987.00	R	22.57
391	560023.73	4243335.47	R	21.93
392	559777.21	4243408.25	R	22.83
393	560031.68	4242933.07	R	20.98
394	559486.21	4243329.84	R	22.99
395	559965.86	4242888.62	R	20.85
396	560109.24	4243285.54	R	21.36
397	559670.47	4242958.82	R	22.61
398	559649.77	4243392.37	R	22.95
399	559721.60	4243368.72	R	22.90
400	559478.95	4243121.05	N	23.01
401	560087.97	4242945.08	R	20.71
402	559885.13	4243342.45	R	21.93
403	559543.51	4243345.18	R	22.80
404	559990.38	4243247.79	R	21.54
405	559634.01	4242918.87	R	22.71
406	560236.26	4243327.06	R	20.89
407	560058.20	4243222.95	R	21.31
408	559639.43	4243342.41	N	22.56
409	559623.64	4243505.81	R	23.86
410	559538.25	4243021.15	R	22.96

411	559942.05	4243406.33	R	22.55
412	560077.69	4243025.98	R	20.87
413	560140.87	4243295.28	R	21.25
414	559647.25	4242940.43	R	22.56
415	559922.58	4242910.02	R	21.47
416	560218.10	4243100.87	R	20.25
417	559893.90	4243441.30	R	22.06
418	559974.00	4243084.20	R	21.19
419	559588.30	4243384.35	R	22.98
420	559701.83	4243232.00	R	21.96
421	559658.15	4243541.78	R	23.50
422	559815.58	4242887.13	R	21.79
423	560062.56	4243047.16	R	20.85
424	559491.94	4243378.94	R	23.16
425	559551.07	4243423.14	R	23.08
426	559712.06	4243048.22	R	21.60
427	559592.10	4243366.54	R	22.76
428	559664.32	4242982.62	R	22.65
429	559538.47	4243419.08	R	23.17
430	560093.02	4243164.19	R	21.40
431	559758.10	4243449.10	R	22.87
432	559970.28	4242837.72	R	20.88
433	560277.90	4243093.99	R	20.13
434	559600.65	4242982.48	R	22.65
435	559485.74	4243398.46	R	23.26
436	559832.09	4243507.68	R	22.95
437	560121.50	4243554.59	R	22.11
438	559554.37	4243018.21	R	23.04
439	559916.87	4243043.48	R	21.23
440	559699.74	4243107.11	R	21.58
441	560065.07	4243074.55	R	20.86
442	560100.05	4243360.81	R	21.76
443	560166.31	4243421.91	R	21.48
444	559982.29	4243260.84	R	21.64
445	560114.65	4243430.19	R	21.59
446	560158.07	4243038.72	R	20.47
447	560301.85	4242902.41	R	19.76
448	560267.60	4243295.85	R	20.55

449	559587.79	4243431.19	R	22.80
450	560246.17	4242868.70	R	19.75
451	559631.89	4242938.81	R	22.64
452	560146.20	4242841.88	R	19.90
453	559865.93	4243111.68	R	21.46
454	559899.59	4243039.81	R	21.37
455	559613.43	4242913.97	R	22.76
456	559526.96	4243414.81	R	23.23
457	559648.79	4243332.43	N	22.66
458	559536.71	4243123.22	R	22.50
459	559938.43	4242886.64	R	21.03
460	560179.46	4243447.88	R	21.12
461	559501.66	4243148.92	R	22.60
462	559685.79	4243419.16	R	22.70
463	559560.31	4243454.83	R	23.04
464	559856.96	4242865.31	R	21.35
465	560173.06	4243011.29	R	20.34
466	559846.79	4243362.87	R	22.04
467	559811.94	4242855.64	R	21.57
468	559866.18	4243392.03	R	22.01
469	559663.78	4242900.59	R	22.14
470	559518.16	4243117.54	R	22.62
471	559762.97	4242938.01	R	21.85
472	559799.63	4243550.39	R	23.00
473	559656.03	4243318.62	N	22.79
474	559510.02	4243072.52	N	22.78
475	559542.93	4243063.75	N	22.90
476	559697.88	4243315.07	R	22.87
477	560234.63	4242945.51	R	19.95
478	559670.86	4242944.12	R	22.58
479	560172.36	4242843.55	R	19.88
480	559891.80	4243111.78	R	21.37
481	559481.11	4243346.95	R	23.15
482	559651.61	4243299.50	N	22.83
483	559558.19	4242989.58	R	23.04
484	559924.33	4243072.57	R	20.98
485	559623.16	4243481.84	R	23.41
486	560193.83	4243046.29	R	20.38

487	560131.43	4243477.94	R	21.79
488	559529.55	4243229.40	R	22.56
489	560119.34	4242999.88	R	20.49
490	559520.87	4243469.97	R	23.97
491	559732.38	4243351.81	R	22.92
492	560082.23	4243239.61	R	21.36
493	559771.70	4243487.39	R	23.39
494	559895.40	4242877.47	R	21.20
495	559788.99	4243119.56	R	21.38
496	559573.13	4243174.68	R	22.24
497	560246.30	4242978.89	R	20.11
498	560068.02	4242852.91	R	20.56
499	559785.01	4242851.13	R	21.68
500	559487.58	4243425.85	R	23.39
501	560027.11	4243064.68	R	21.09
502	559762.26	4242875.51	R	22.00
503	559640.36	4243255.95	R	22.46
504	559625.40	4242949.80	R	22.55
505	559987.28	4243422.38	R	22.43
506	559559.81	4243002.57	R	23.03
507	559739.45	4243441.19	R	22.88
508	560180.58	4243220.85	R	20.88
509	560295.75	4243060.08	R	20.09
510	560244.31	4243381.67	R	21.32
511	559496.65	4243157.15	R	22.61
512	559643.54	4243486.30	R	23.15
513	560175.83	4243326.33	R	21.39
514	559491.95	4243164.88	R	22.68
515	560098.78	4243302.22	R	21.49
516	560198.71	4242937.91	R	20.14
517	560111.46	4243078.10	R	20.63
518	559901.30	4243422.45	R	22.11
519	559626.87	4243369.51	R	22.48
520	560186.79	4243309.49	R	21.31
521	559619.68	4243379.51	R	22.51
522	560284.57	4243301.06	R	20.54
523	559885.27	4242811.75	R	21.66
524	559903.40	4242820.21	R	21.52

525	559917.90	4242825.04	R	21.42
526	559939.65	4242805.70	R	21.45
527	559971.08	4242815.37	R	21.08
528	559973.50	4242798.45	R	21.08
529	560019.43	4242811.75	R	20.75
530	560038.76	4242811.75	R	20.76
531	560058.10	4242817.79	R	20.53
532	560072.61	4242825.04	R	20.51
533	560102.82	4242826.25	R	20.48
534	560139.08	4242819.00	R	19.90
535	560303.46	4243043.81	R	20.03
536	560309.50	4243029.30	R	20.04
537	560319.17	4242999.09	R	19.95
538	560320.38	4242967.66	R	19.72
539	559936.03	4243481.34	S	22.37
540	559975.91	4243500.67	S	22.41
541	559992.84	4243511.55	S	22.43
542	560026.68	4243523.64	S	22.19
543	559939.65	4243460.79	S	22.27
544	559936.03	4243442.66	S	22.19
545	559961.41	4243442.66	S	22.23
546	560003.71	4243460.79	S	22.31
547	560042.39	4243484.96	S	22.34
548	560046.02	4243462.00	S	22.30
549	560060.52	4243440.24	S	22.25
550	560021.84	4243579.24	R	22.21
551	560038.76	4243592.53	R	22.11
552	560052.06	4243599.78	R	22.01
553	559753.52	4243136.87		21.59
554	560125.00	4243225.00		20.52
555	560225.00	4243225.00	P	20.71
556	560275.00	4243225.00	P	20.55
557	560325.00	4243225.20	P	20.00
558	560325.00	4243275.00	P	20.23
559	560125.00	4243175.00	P	20.16
560	560175.01	4243175.00	P	20.26
561	560225.00	4243175.00	P	20.43
562	560275.00	4243175.00	P	20.40

563	560325.00	4243175.00	P	20.10
564	560325.00	4243125.00	P	19.90
565	560375.00	4243075.00	P	19.92
566	560125.00	4243225.00	P	20.52
567	559781.90	4242994.98	P	21.62
568	559849.49	4243560.25	P	22.95
569	559884.01	4243576.07	P	23.23
570	559927.16	4243591.90	P	22.84
571	559958.81	4243607.72	P	22.63
572	559978.94	4243584.70	P	22.16
573	559938.67	4243563.13	P	22.46
574	559894.08	4243553.06	P	22.63
575	559863.88	4243537.24	P	22.56
576	560029.29	4243479.71	S	22.31

Plant Boundary Receptors

Receptor Groups

Record Number	Group ID	Group Description
1	R	Residential
2	N	Non-Residential
3	S	School
4	P	Park - Open Space

Meteorology Pathway

Met Input Data

Surface Met Data

Filename: KAPC13_17.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: KAPC13_17.PFL
Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 4.30 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2013			NAPA CO AIRPORT, CA US
Upper Air		2013			OAKLAND/WSO AP

Data Period

Data Period to Process

Start Date: 1/1/2013 Start Hour: 1 End Date: 12/31/2017 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Output Pathway

Results Summary

Napa Zinfadel Subdivision
DPM Construction HRA

PM10 - Concentration - Source Group: DPM

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.02409	ug/m^3	559966.28	4243286.48	21.77	0.00	21.77	

Control Pathway

AERMOD

Dispersion Options

Titles

Napa Zinfadel Subdivision
PM2.5 Construction Modeling

Dispersion Options

☑ Regulatory Default ☐ Non-Default Options

Dispersion Coefficient

Urban — Population:
Name (Optional):
Roughness Length:

Output Type

☑ Concentration
☐ Total Deposition (Dry & Wet)
☐ Dry Deposition
☐ Wet Deposition

Plume Depletion

☐ Dry Removal
☐ Wet Removal

Output Warnings

☐ No Output Warnings
☐ Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

PM10

Averaging Time Options

Hours: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 6 ☐ 8 ☐ 12 ☐ 24

☐ Month ☑ Period ☐ Annual

Exponential Decay

Half-life of 4 hrs will be used

Terrain Height Options

☐ Flat ☑ Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

☐ Yes ☑ No

Default Height = 0.00 m

Control Pathway

Optional Files

Re-Start File	Init File	Multi-Year Analyses	Event Input File	Error Listing File
☐	☐	☐	☐	■

Detailed Error Listing File

Filename: ConPM25.err

Source Pathway - Source Inputs

Polygon Area Sources

Source Type: AREA POLY

Source: SITE (Constuction Site)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
21.94	5.00	1.82E-7	1.40	11	559715.23	4243254.83
		1.82E-7			559821.25	4243286.02
		1.82E-7			559834.57	4243243.36
		1.82E-7			559885.60	4243258.87
		1.82E-7			559862.87	4243299.64
		1.82E-7			559928.91	4243320.45
		1.82E-7			560069.81	4243092.44
		1.82E-7			560000.09	4243077.24
		1.82E-7			559956.39	4243146.22
		1.82E-7			559853.92	4243143.74
		1.82E-7			559774.86	4243161.13

Line Volume Sources

Source Type: LINE VOLUME

Source: HAUL1 (El Centro Avenue - East of the Site)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
13.00	9.68E-6		559873.23	4243307.91	21.68	3.40
			560218.87	4243418.21	20.75	3.40

Source Type: LINE VOLUME

Source: HAUL2 (El Centro Avenue - West of the Site)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
13.00	0.00001		559856.43	4243304.24	21.73	3.40
			559419.54	4243171.69	23.17	3.40
			559421.97	4243171.69	23.09	3.40

Source Pathway - Source Inputs

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL1	L0000189	559879.42	4243309.88	21.69	3.40	3.46E-7	13.00		6.05	3.16
	L0000190	559891.81	4243313.83	21.67	3.40	3.46E-7	13.00		6.05	3.16
	L0000191	559904.19	4243317.79	21.66	3.40	3.46E-7	13.00		6.05	3.16
	L0000192	559916.58	4243321.74	21.61	3.40	3.46E-7	13.00		6.05	3.16
	L0000193	559928.96	4243325.69	21.58	3.40	3.46E-7	13.00		6.05	3.16
	L0000194	559941.35	4243329.64	21.58	3.40	3.46E-7	13.00		6.05	3.16
	L0000195	559953.73	4243333.60	21.51	3.40	3.46E-7	13.00		6.05	3.16
	L0000196	559966.12	4243337.55	21.48	3.40	3.46E-7	13.00		6.05	3.16
	L0000197	559978.50	4243341.50	21.52	3.40	3.46E-7	13.00		6.05	3.16
	L0000198	559990.89	4243345.45	21.52	3.40	3.46E-7	13.00		6.05	3.16
	L0000199	560003.27	4243349.41	21.50	3.40	3.46E-7	13.00		6.05	3.16
	L0000200	560015.66	4243353.36	21.47	3.40	3.46E-7	13.00		6.05	3.16
	L0000201	560028.04	4243357.31	21.34	3.40	3.46E-7	13.00		6.05	3.16
	L0000202	560040.42	4243361.26	21.28	3.40	3.46E-7	13.00		6.05	3.16
	L0000203	560052.81	4243365.21	21.36	3.40	3.46E-7	13.00		6.05	3.16
	L0000204	560065.19	4243369.17	21.41	3.40	3.46E-7	13.00		6.05	3.16
	L0000205	560077.58	4243373.12	21.44	3.40	3.46E-7	13.00		6.05	3.16
	L0000206	560089.96	4243377.07	21.36	3.40	3.46E-7	13.00		6.05	3.16
	L0000207	560102.35	4243381.02	21.29	3.40	3.46E-7	13.00		6.05	3.16
	L0000208	560114.73	4243384.98	21.20	3.40	3.46E-7	13.00		6.05	3.16
	L0000209	560127.12	4243388.93	21.21	3.40	3.46E-7	13.00		6.05	3.16
	L0000210	560139.50	4243392.88	21.19	3.40	3.46E-7	13.00		6.05	3.16
	L0000211	560151.89	4243396.83	21.07	3.40	3.46E-7	13.00		6.05	3.16
	L0000212	560164.27	4243400.79	21.04	3.40	3.46E-7	13.00		6.05	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL1	L0000213	560176.66	4243404.74	21.04	3.40	3.46E-7	13.00		6.05	3.16
	L0000214	560189.04	4243408.69	20.90	3.40	3.46E-7	13.00		6.05	3.16
	L0000215	560201.42	4243412.64	20.82	3.40	3.46E-7	13.00		6.05	3.16
	L0000216	560213.81	4243416.60	20.78	3.40	3.46E-7	13.00		6.05	3.16

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL2	L0000217	559850.21	4243302.35	21.77	3.40	3.50E-7	13.00		6.05	3.16
	L0000218	559837.77	4243298.58	21.86	3.40	3.50E-7	13.00		6.05	3.16
	L0000219	559825.33	4243294.81	21.85	3.40	3.50E-7	13.00		6.05	3.16
	L0000220	559812.89	4243291.03	21.89	3.40	3.50E-7	13.00		6.05	3.16
	L0000221	559800.45	4243287.26	21.92	3.40	3.50E-7	13.00		6.05	3.16
	L0000222	559788.01	4243283.48	21.94	3.40	3.50E-7	13.00		6.05	3.16
	L0000223	559775.57	4243279.71	21.99	3.40	3.50E-7	13.00		6.05	3.16
	L0000224	559763.13	4243275.93	22.03	3.40	3.50E-7	13.00		6.05	3.16
	L0000225	559750.69	4243272.16	22.04	3.40	3.50E-7	13.00		6.05	3.16
	L0000226	559738.25	4243268.39	21.99	3.40	3.50E-7	13.00		6.05	3.16
	L0000227	559725.81	4243264.61	22.00	3.40	3.50E-7	13.00		6.05	3.16
	L0000228	559713.37	4243260.84	22.02	3.40	3.50E-7	13.00		6.05	3.16
	L0000229	559700.93	4243257.06	22.01	3.40	3.50E-7	13.00		6.05	3.16
	L0000230	559688.49	4243253.29	22.05	3.40	3.50E-7	13.00		6.05	3.16
	L0000231	559676.05	4243249.52	22.07	3.40	3.50E-7	13.00		6.05	3.16
	L0000232	559663.61	4243245.74	22.11	3.40	3.50E-7	13.00		6.05	3.16
	L0000233	559651.17	4243241.97	22.14	3.40	3.50E-7	13.00		6.05	3.16
	L0000234	559638.73	4243238.19	22.22	3.40	3.50E-7	13.00		6.05	3.16
	L0000235	559626.29	4243234.42	22.28	3.40	3.50E-7	13.00		6.05	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
HAUL2	L0000236	559613.85	4243230.64	22.31	3.40	3.50E-7	13.00		6.05	3.16
	L0000237	559601.41	4243226.87	22.38	3.40	3.50E-7	13.00		6.05	3.16
	L0000238	559588.97	4243223.10	22.46	3.40	3.50E-7	13.00		6.05	3.16
	L0000239	559576.53	4243219.32	22.47	3.40	3.50E-7	13.00		6.05	3.16
	L0000240	559564.09	4243215.55	22.44	3.40	3.50E-7	13.00		6.05	3.16
	L0000241	559551.65	4243211.77	22.38	3.40	3.50E-7	13.00		6.05	3.16
	L0000242	559539.21	4243208.00	22.38	3.40	3.50E-7	13.00		6.05	3.16
	L0000243	559526.77	4243204.22	22.34	3.40	3.50E-7	13.00		6.05	3.16
	L0000244	559514.33	4243200.45	22.31	3.40	3.50E-7	13.00		6.05	3.16
	L0000245	559501.89	4243196.68	22.33	3.40	3.50E-7	13.00		6.05	3.16
	L0000246	559489.45	4243192.90	22.44	3.40	3.50E-7	13.00		6.05	3.16
	L0000247	559477.01	4243189.13	22.58	3.40	3.50E-7	13.00		6.05	3.16
	L0000248	559464.57	4243185.35	22.71	3.40	3.50E-7	13.00		6.05	3.16
	L0000249	559452.13	4243181.58	22.80	3.40	3.50E-7	13.00		6.05	3.16
	L0000250	559439.69	4243177.80	22.89	3.40	3.50E-7	13.00		6.05	3.16
	L0000251	559427.25	4243174.03	23.06	3.40	3.50E-7	13.00		6.05	3.16

Source Pathway

Building Downwash Information

Option not in use

Emission Rate Units for Output

For Concentration

Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

Source Groups

Source Group ID: CON_PM25	List of Sources in Group (Source Range or Single Sources)
	SITE
	HAUL1
	HAUL2

Variable Emissions

Hour-of-Day / Day-of-Week Emission Rate Variation

Scenario: Scenario 2

Source ID: SITE

Weekdays							
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00
	7 - 12	0.00	0.00	1.00	1.00	1.00	1.00
	13 - 18	0.00	1.00	1.00	1.00	1.00	0.00
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00
Saturday							
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00
Sunday							
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00

Source ID: HAUL1

Weekdays							
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00
	7 - 12	0.00	0.00	1.00	1.00	1.00	1.00
	13 - 18	0.00	1.00	1.00	1.00	1.00	0.00
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00
Saturday							
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00
Sunday							
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00

Source ID: HAUL2

Weekdays							
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00
	7 - 12	0.00	0.00	1.00	1.00	1.00	1.00
	13 - 18	0.00	1.00	1.00	1.00	1.00	0.00
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00
Saturday							
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00
Sunday							
Hour of Day	1 - 6	0.00	0.00	0.00	0.00	0.00	0.00
	7 - 12	0.00	0.00	0.00	0.00	0.00	0.00
	13 - 18	0.00	0.00	0.00	0.00	0.00	0.00
	19 - 24	0.00	0.00	0.00	0.00	0.00	0.00

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	559786.01	4243494.30	R	23.25	
2	559570.86	4243381.48	R	23.01	
3	559565.87	4242975.51	R	22.84	
4	559511.05	4243435.34	R	23.28	
5	560032.27	4242845.32	R	20.66	
6	559795.41	4243066.26	R	21.40	
7	559721.96	4243433.92	R	22.80	
8	559659.31	4242922.17	R	22.39	
9	559877.27	4242873.72	R	21.29	
10	559574.83	4243020.19	R	22.22	
11	559743.33	4243332.91	R	22.82	
12	559869.06	4242898.59	R	21.65	
13	560006.74	4243008.25	R	21.03	
14	560066.78	4243502.16	R	22.03	
15	559836.76	4243382.94	R	22.22	
16	560083.40	4243004.76	R	20.64	
17	560021.71	4242979.31	R	20.70	
18	560055.05	4242907.46	R	20.57	
19	559616.83	4243316.29	N	22.74	
20	560008.87	4243388.83	R	22.19	
21	560034.04	4243261.70	R	21.59	
22	560206.20	4243382.97	R	21.00	
23	559831.45	4242864.27	R	21.47	
24	560156.29	4242959.68	R	20.39	
25	560001.86	4243313.68	R	21.80	
26	559504.32	4243463.10	R	23.99	
27	560143.42	4243458.54	R	21.67	
28	559680.13	4242897.87	R	22.01	
29	560230.00	4243053.97	R	20.29	
30	560119.61	4243496.80	R	21.98	

31	559805.07	4243412.79	R	22.37
32	560111.74	4243546.12	R	22.35
33	559861.62	4243463.76	R	22.39
34	560236.03	4243399.06	R	21.26
35	559642.88	4243093.46	R	21.91
36	559745.12	4242871.68	R	22.28
37	560207.57	4242848.73	R	19.74
38	560110.43	4243344.11	R	21.62
39	559566.84	4243075.29	R	22.17
40	560022.44	4243196.30	R	21.21
41	560236.67	4243105.01	R	20.27
42	559582.48	4243444.21	R	22.92
43	559759.51	4243308.54	R	22.53
44	559859.74	4243332.25	R	21.92
45	559538.00	4243477.04	R	24.06
46	559527.04	4243344.16	R	22.89
47	559564.93	4243357.00	R	22.82
48	560060.28	4242993.23	R	20.61
49	559704.45	4243426.69	R	22.73
50	559722.16	4243107.71	R	21.51
51	559584.64	4243294.82	R	22.60
52	559940.77	4242913.90	R	21.46
53	559554.06	4243238.34	R	22.53
54	559618.39	4242914.99	R	22.75
55	559988.12	4243058.62	R	21.13
56	559666.30	4243195.51	R	21.99
57	559984.32	4242996.74	R	21.00
58	559742.03	4243384.37	R	22.87
59	559797.87	4242883.35	R	21.85
60	560103.63	4242860.49	R	20.38
61	559607.28	4243463.91	R	23.20
62	559711.85	4243384.50	R	22.75
63	560175.96	4243042.52	R	20.40
64	560244.37	4243026.44	R	20.03
65	559851.41	4243499.65	R	22.53
66	559733.46	4243054.66	R	21.50
67	560226.61	4243022.68	R	20.17
68	559833.87	4242934.19	N	21.46

69	559630.13	4243424.04	R	23.07
70	559547.54	4243400.52	R	23.07
71	559694.89	4243503.94	R	23.52
72	559601.09	4243411.18	R	22.74
73	560139.26	4242868.10	R	20.32
74	559851.04	4242894.73	R	21.69
75	560192.81	4242967.45	R	20.25
76	560150.83	4243221.88	R	20.68
77	559487.61	4243456.20	R	23.84
78	560026.90	4243012.56	R	20.97
79	560249.21	4243058.37	R	20.15
80	559686.93	4243326.07	R	22.89
81	560003.70	4242975.52	R	20.78
82	559730.62	4243527.93	R	23.49
83	560196.43	4243349.59	R	20.64
84	559614.50	4243329.88	N	22.66
85	559514.28	4243074.03	N	22.78
86	560041.75	4243032.06	R	20.80
87	559500.73	4243432.56	R	23.36
88	559619.52	4243439.51	R	23.09
89	560010.30	4243299.81	R	21.77
90	559586.71	4243079.99	R	22.14
91	560210.92	4242971.31	R	20.16
92	559762.73	4242840.41	R	21.81
93	559511.01	4243133.55	R	22.58
94	560244.65	4243370.08	R	21.27
95	559578.23	4242978.08	R	22.62
96	560157.65	4242872.05	R	20.26
97	559680.10	4242903.04	R	22.10
98	559969.76	4243054.81	R	21.08
99	560030.33	4243183.00	R	21.21
100	559513.95	4243409.22	R	23.24
101	559535.34	4243395.75	R	23.13
102	560047.88	4243296.78	R	21.64
103	560014.58	4242841.32	R	20.69
104	559813.64	4243062.30	R	21.37
105	560019.78	4242899.99	R	20.56
106	559880.71	4243433.23	R	22.01

107	560147.06	4243084.52	R	20.42
108	560200.50	4243096.88	R	20.26
109	559787.28	4243303.30	R	22.16
110	559639.89	4243408.22	R	22.97
111	560208.80	4243018.87	R	20.24
112	560211.95	4243050.13	R	20.38
113	559655.45	4243269.31	R	22.49
114	560155.12	4243007.47	R	20.44
115	559974.13	4243273.88	R	21.70
116	559966.28	4243286.48	R	21.77
117	559859.18	4243487.27	R	22.45
118	560050.20	4242849.13	R	20.63
119	559669.73	4243445.42	R	23.27
120	559780.78	4243314.63	R	22.23
121	560126.74	4242922.65	R	20.38
122	559669.44	4243159.44	R	21.96
123	560182.63	4243092.74	R	20.40
124	560130.45	4243312.04	R	21.49
125	559666.65	4242971.22	R	22.58
126	559545.43	4243369.17	R	22.97
127	559944.35	4242998.73	R	21.11
128	560073.20	4242911.31	R	20.50
129	560153.51	4243440.10	R	21.73
130	559874.43	4243472.18	R	22.37
131	560126.93	4243411.12	R	21.64
132	560192.42	4243476.59	R	21.09
133	560263.87	4243030.77	R	20.07
134	559575.50	4243459.11	R	23.07
135	559884.97	4243336.55	R	21.91
136	559547.08	4243449.24	R	23.11
137	560232.64	4243285.22	R	21.02
138	559681.42	4243220.92	R	22.07
139	560059.81	4243277.66	R	21.47
140	559759.24	4243480.65	R	23.39
141	559723.31	4243467.55	R	23.48
142	559803.70	4242927.76	R	21.61
143	559668.85	4243361.59	R	22.85
144	559838.37	4243422.81	R	22.35

145	559481.02	4243377.83	R	23.19
146	560085.99	4243333.12	R	21.69
147	560122.64	4243031.19	R	20.62
148	559909.08	4242991.33	R	21.27
149	559635.41	4243295.63	N	22.87
150	560082.85	4243182.55	R	21.48
151	560026.47	4243273.87	R	21.68
152	559763.96	4243115.31	R	21.47
153	560228.73	4242975.13	R	20.13
154	559658.61	4242941.50	R	22.53
155	559652.99	4243155.17	R	21.93
156	560180.29	4242934.00	R	20.21
157	559919.23	4243112.07	R	21.24
158	559561.90	4243407.04	R	23.06
159	560066.06	4243258.49	R	21.49
160	560104.03	4243028.33	R	20.66
161	559714.92	4243508.14	R	23.48
162	560287.11	4243076.13	R	20.14
163	559593.51	4242939.22	N	22.26
164	560137.29	4243003.72	R	20.49
165	560016.73	4243374.17	R	21.98
166	559852.30	4243426.93	R	22.29
167	560210.86	4242883.43	R	19.96
168	560063.81	4243350.03	R	21.90
169	560175.37	4242875.83	R	20.28
170	559572.24	4243408.41	R	22.92
171	560289.73	4242866.02	R	19.58
172	560190.95	4243015.10	R	20.18
173	560042.19	4243248.68	R	21.41
174	560171.87	4243501.91	R	21.19
175	560035.95	4243315.89	R	21.78
176	559534.50	4243443.22	R	23.12
177	559611.09	4243172.89	R	22.13
178	559590.27	4242980.32	R	22.58
179	559483.08	4243211.67	R	22.64
180	560018.87	4243286.10	R	21.68
181	559668.43	4243038.89	R	21.73
182	560094.13	4243464.58	R	21.89

183	560164.92	4243088.63	R	20.45
184	560069.36	4243193.45	R	21.16
185	560264.06	4242982.67	R	20.07
186	560271.09	4243330.47	R	20.78
187	560129.33	4243080.45	R	20.54
188	560004.29	4243066.11	R	21.17
189	559678.67	4243500.87	R	23.41
190	559529.72	4243122.54	R	22.55
191	560146.09	4243373.84	R	21.56
192	559520.39	4243075.55	N	22.81
193	559595.24	4243422.83	R	22.79
194	559995.45	4242925.34	R	20.99
195	560074.29	4243556.98	R	22.21
196	559717.72	4243283.37	R	22.75
197	559653.02	4242994.55	R	22.68
198	559999.37	4243405.37	R	22.33
199	560107.55	4243515.23	R	22.06
200	559993.18	4243327.71	R	21.78
201	559934.80	4243047.28	R	21.13
202	559811.42	4243484.38	R	22.67
203	559845.75	4243519.67	R	22.99
204	559622.50	4243303.19	N	22.83
205	560064.65	4243208.96	R	21.30
206	560138.58	4242955.92	R	20.55
207	559559.74	4243141.43	R	22.22
208	559705.94	4243460.33	R	23.36
209	559788.55	4243545.94	R	22.98
210	559732.29	4243210.19	R	21.87
211	559859.68	4243272.73	R	21.96
212	559846.60	4242967.52	N	21.39
213	560039.67	4242983.12	R	20.62
214	559506.40	4243222.22	R	22.63
215	559665.72	4243304.28	N	22.84
216	559760.85	4243391.21	R	22.97
217	559949.70	4243313.61	R	21.82
218	559843.86	4243067.26	R	21.35
219	559605.73	4243084.52	R	21.97
220	560037.35	4242903.71	R	20.61

221	559797.40	4243425.18	R	22.39
222	559693.80	4243047.03	R	21.60
223	559494.14	4243351.45	R	23.14
224	560091.32	4242915.15	R	20.47
225	559779.68	4242879.26	R	21.89
226	560262.80	4243102.67	R	20.21
227	560126.53	4243248.01	R	20.95
228	559603.09	4243018.43	R	22.00
229	559945.02	4242884.23	R	20.99
230	559881.01	4243396.49	R	22.01
231	560103.35	4242948.37	R	20.63
232	559926.25	4242994.92	R	21.28
233	559879.01	4243067.28	R	21.30
234	560140.65	4243035.02	R	20.60
235	559574.96	4243359.14	R	22.76
236	559661.70	4243097.97	R	21.89
237	560121.38	4242864.28	R	20.40
238	559641.23	4242991.51	R	22.55
239	559905.19	4242906.30	R	21.52
240	559602.36	4243186.39	R	22.32
241	559558.00	4243376.08	R	23.04
242	559539.50	4243070.01	N	22.94
243	559594.65	4243157.12	R	22.12
244	559606.93	4243399.53	R	22.66
245	560200.82	4243286.38	R	21.42
246	559609.81	4242912.60	R	22.76
247	559613.32	4243392.47	R	22.63
248	559966.56	4243412.40	R	22.36
249	559488.81	4243171.84	R	22.66
250	560094.07	4243082.68	R	20.71
251	559820.86	4243473.23	R	22.55
252	559572.31	4243491.25	R	23.91
253	560050.16	4243235.88	R	21.35
254	560049.26	4242936.82	R	20.90
255	559653.33	4242897.54	R	22.23
256	560089.56	4243541.85	R	22.33
257	559522.34	4243438.95	R	23.22
258	559589.44	4243498.34	R	23.89

259	559506.37	4243141.18	R	22.60
260	559477.22	4243423.86	R	23.41
261	559630.97	4243209.04	R	22.30
262	560090.76	4242857.74	R	20.47
263	559639.51	4243194.53	R	22.15
264	559621.24	4242960.62	R	22.42
265	559960.74	4243373.51	R	22.29
266	559840.93	4243112.67	R	21.48
267	560120.95	4242952.12	R	20.51
268	560081.77	4243478.05	R	22.00
269	559833.15	4242890.91	R	21.70
270	559550.37	4243027.43	R	22.74
271	559800.27	4243501.47	R	23.10
272	559911.22	4243362.15	R	21.86
273	559898.71	4243069.31	R	21.24
274	559789.19	4242849.75	R	21.66
275	560101.00	4242997.59	R	20.66
276	560014.49	4243209.03	R	21.27
277	559686.44	4243164.08	R	21.94
278	559971.49	4243359.60	R	22.01
279	559878.81	4242870.01	R	21.25
280	559915.15	4242958.34	R	21.16
281	560109.17	4242918.93	R	20.45
282	559742.15	4243475.52	R	23.51
283	559608.18	4243345.74	N	22.56
284	559555.48	4243484.26	R	23.96
285	560228.42	4242887.79	R	19.98
286	560120.44	4243328.08	R	21.53
287	559707.55	4243299.61	R	22.79
288	559624.31	4243088.98	R	21.95
289	560199.63	4243265.81	R	21.32
290	559678.82	4243345.64	R	22.89
291	560189.90	4242844.96	R	19.86
292	560055.64	4243523.11	R	22.20
293	559605.56	4243501.90	R	23.87
294	560174.52	4242963.54	R	20.23
295	560147.49	4243516.87	R	21.86
296	560099.40	4243152.28	R	21.32

297	560037.58	4243553.60	R	22.37
298	559616.11	4243155.70	R	21.96
299	559754.89	4243059.40	R	21.39
300	559678.96	4243269.79	R	22.37
301	559766.41	4242842.20	R	21.80
302	560044.57	4243425.90	S	22.10
303	559647.38	4243034.30	R	21.87
304	559563.06	4243425.66	R	23.03
305	559775.09	4243061.55	R	21.39
306	559806.84	4242859.00	R	21.62
307	560285.80	4243332.87	R	20.78
308	560130.03	4243515.42	R	22.01
309	560145.76	4243253.99	R	20.95
310	559980.41	4243014.69	R	20.87
311	559648.75	4242920.59	R	22.55
312	560251.21	4243288.66	R	20.72
313	560288.53	4242956.90	R	19.73
314	559931.70	4242961.72	R	21.04
315	560155.99	4243357.71	R	21.62
316	560247.12	4242892.24	R	19.82
317	559775.37	4243540.43	R	23.05
318	559913.34	4243405.61	R	22.04
319	559850.12	4242867.93	R	21.39
320	560144.42	4242926.41	R	20.24
321	559513.32	4243340.86	R	22.97
322	559502.22	4243334.92	R	22.97
323	560252.01	4243331.87	R	20.86
324	559851.42	4243387.49	R	22.20
325	559522.64	4243361.02	R	23.07
326	560283.21	4242898.49	R	19.80
327	559812.98	4243320.90	R	22.19
328	559598.83	4243264.82	R	22.61
329	559959.65	4242917.97	R	21.13
330	560108.44	4243133.81	R	21.19
331	559634.23	4243149.21	R	21.90
332	560104.42	4243447.11	R	21.68
333	560252.38	4242949.27	R	19.96
334	560086.20	4243320.10	R	21.53

335	560176.65	4243489.06	R	21.26
336	559593.90	4243200.59	R	22.48
337	559997.26	4243327.06	R	21.81
338	559900.63	4242874.70	R	21.16
339	559998.37	4243234.95	R	21.55
340	559958.23	4243299.37	R	21.82
341	559860.88	4243065.38	R	21.41
342	560041.68	4243015.38	R	20.81
343	560166.20	4243260.44	R	20.89
344	559546.41	4242996.96	R	23.10
345	559747.98	4243531.28	R	23.43
346	559680.02	4242925.28	R	22.35
347	559659.02	4243377.45	R	22.87
348	560067.32	4242940.68	R	20.61
349	559623.72	4242916.16	R	22.76
350	560162.04	4242930.17	R	20.34
351	559952.11	4243387.99	R	22.36
352	559787.75	4243464.28	R	22.71
353	559887.34	4242902.48	R	21.56
354	559986.00	4242971.80	R	20.95
355	560216.80	4242941.73	R	20.05
356	559610.73	4242984.67	R	22.67
357	559922.93	4242879.50	R	21.05
358	559688.77	4243453.18	R	23.28
359	560193.03	4242879.61	R	20.12
360	559625.67	4243029.52	R	21.91
361	560001.31	4242896.31	R	20.66
362	559629.05	4242917.93	R	22.76
363	559509.07	4243356.24	R	23.11
364	559815.55	4243120.26	R	21.51
365	559767.87	4243349.84	R	22.46
366	559728.76	4242965.65	N	21.92
367	560282.25	4242986.58	R	20.03
368	559723.64	4243552.62	R	23.48
369	559667.47	4243527.36	R	23.43
370	559762.60	4243535.19	R	23.13
371	559669.66	4242923.72	R	22.35
372	559774.75	4243455.90	R	22.69

373	559632.19	4243355.95	N	22.50
374	560249.82	4242849.85	R	19.41
375	559740.32	4243108.90	R	21.51
376	560006.38	4243222.10	R	21.46
377	559834.09	4242860.52	R	21.42
378	559832.97	4243326.95	R	22.06
379	560270.19	4242953.05	R	19.90
380	559950.16	4242965.46	R	20.86
381	560165.68	4243342.20	R	21.56
382	559965.65	4243108.99	R	21.11
383	560014.01	4242929.30	R	20.97
384	559652.94	4243215.07	R	22.21
385	559683.14	4243100.08	R	21.67
386	559632.12	4242989.18	R	22.52
387	559820.79	4243381.68	R	22.36
388	559698.69	4243540.70	R	23.65
389	560226.00	4242852.63	R	19.66
390	559621.49	4242987.00	R	22.57
391	560023.73	4243335.47	R	21.93
392	559777.21	4243408.25	R	22.83
393	560031.68	4242933.07	R	20.98
394	559486.21	4243329.84	R	22.99
395	559965.86	4242888.62	R	20.85
396	560109.24	4243285.54	R	21.36
397	559670.47	4242958.82	R	22.61
398	559649.77	4243392.37	R	22.95
399	559721.60	4243368.72	R	22.90
400	559478.95	4243121.05	N	23.01
401	560087.97	4242945.08	R	20.71
402	559885.13	4243342.45	R	21.93
403	559543.51	4243345.18	R	22.80
404	559990.38	4243247.79	R	21.54
405	559634.01	4242918.87	R	22.71
406	560236.26	4243327.06	R	20.89
407	560058.20	4243222.95	R	21.31
408	559639.43	4243342.41	N	22.56
409	559623.64	4243505.81	R	23.86
410	559538.25	4243021.15	R	22.96

411	559942.05	4243406.33	R	22.55
412	560077.69	4243025.98	R	20.87
413	560140.87	4243295.28	R	21.25
414	559647.25	4242940.43	R	22.56
415	559922.58	4242910.02	R	21.47
416	560218.10	4243100.87	R	20.25
417	559893.90	4243441.30	R	22.06
418	559974.00	4243084.20	R	21.19
419	559588.30	4243384.35	R	22.98
420	559701.83	4243232.00	R	21.96
421	559658.15	4243541.78	R	23.50
422	559815.58	4242887.13	R	21.79
423	560062.56	4243047.16	R	20.85
424	559491.94	4243378.94	R	23.16
425	559551.07	4243423.14	R	23.08
426	559712.06	4243048.22	R	21.60
427	559592.10	4243366.54	R	22.76
428	559664.32	4242982.62	R	22.65
429	559538.47	4243419.08	R	23.17
430	560093.02	4243164.19	R	21.40
431	559758.10	4243449.10	R	22.87
432	559970.28	4242837.72	R	20.88
433	560277.90	4243093.99	R	20.13
434	559600.65	4242982.48	R	22.65
435	559485.74	4243398.46	R	23.26
436	559832.09	4243507.68	R	22.95
437	560121.50	4243554.59	R	22.11
438	559554.37	4243018.21	R	23.04
439	559916.87	4243043.48	R	21.23
440	559699.74	4243107.11	R	21.58
441	560065.07	4243074.55	R	20.86
442	560100.05	4243360.81	R	21.76
443	560166.31	4243421.91	R	21.48
444	559982.29	4243260.84	R	21.64
445	560114.65	4243430.19	R	21.59
446	560158.07	4243038.72	R	20.47
447	560301.85	4242902.41	R	19.76
448	560267.60	4243295.85	R	20.55

449	559587.79	4243431.19	R	22.80
450	560246.17	4242868.70	R	19.75
451	559631.89	4242938.81	R	22.64
452	560146.20	4242841.88	R	19.90
453	559865.93	4243111.68	R	21.46
454	559899.59	4243039.81	R	21.37
455	559613.43	4242913.97	R	22.76
456	559526.96	4243414.81	R	23.23
457	559648.79	4243332.43	N	22.66
458	559536.71	4243123.22	R	22.50
459	559938.43	4242886.64	R	21.03
460	560179.46	4243447.88	R	21.12
461	559501.66	4243148.92	R	22.60
462	559685.79	4243419.16	R	22.70
463	559560.31	4243454.83	R	23.04
464	559856.96	4242865.31	R	21.35
465	560173.06	4243011.29	R	20.34
466	559846.79	4243362.87	R	22.04
467	559811.94	4242855.64	R	21.57
468	559866.18	4243392.03	R	22.01
469	559663.78	4242900.59	R	22.14
470	559518.16	4243117.54	R	22.62
471	559762.97	4242938.01	R	21.85
472	559799.63	4243550.39	R	23.00
473	559656.03	4243318.62	N	22.79
474	559510.02	4243072.52	N	22.78
475	559542.93	4243063.75	N	22.90
476	559697.88	4243315.07	R	22.87
477	560234.63	4242945.51	R	19.95
478	559670.86	4242944.12	R	22.58
479	560172.36	4242843.55	R	19.88
480	559891.80	4243111.78	R	21.37
481	559481.11	4243346.95	R	23.15
482	559651.61	4243299.50	N	22.83
483	559558.19	4242989.58	R	23.04
484	559924.33	4243072.57	R	20.98
485	559623.16	4243481.84	R	23.41
486	560193.83	4243046.29	R	20.38

487	560131.43	4243477.94	R	21.79
488	559529.55	4243229.40	R	22.56
489	560119.34	4242999.88	R	20.49
490	559520.87	4243469.97	R	23.97
491	559732.38	4243351.81	R	22.92
492	560082.23	4243239.61	R	21.36
493	559771.70	4243487.39	R	23.39
494	559895.40	4242877.47	R	21.20
495	559788.99	4243119.56	R	21.38
496	559573.13	4243174.68	R	22.24
497	560246.30	4242978.89	R	20.11
498	560068.02	4242852.91	R	20.56
499	559785.01	4242851.13	R	21.68
500	559487.58	4243425.85	R	23.39
501	560027.11	4243064.68	R	21.09
502	559762.26	4242875.51	R	22.00
503	559640.36	4243255.95	R	22.46
504	559625.40	4242949.80	R	22.55
505	559987.28	4243422.38	R	22.43
506	559559.81	4243002.57	R	23.03
507	559739.45	4243441.19	R	22.88
508	560180.58	4243220.85	R	20.88
509	560295.75	4243060.08	R	20.09
510	560244.31	4243381.67	R	21.32
511	559496.65	4243157.15	R	22.61
512	559643.54	4243486.30	R	23.15
513	560175.83	4243326.33	R	21.39
514	559491.95	4243164.88	R	22.68
515	560098.78	4243302.22	R	21.49
516	560198.71	4242937.91	R	20.14
517	560111.46	4243078.10	R	20.63
518	559901.30	4243422.45	R	22.11
519	559626.87	4243369.51	R	22.48
520	560186.79	4243309.49	R	21.31
521	559619.68	4243379.51	R	22.51
522	560284.57	4243301.06	R	20.54
523	559885.27	4242811.75	R	21.66
524	559903.40	4242820.21	R	21.52

525	559917.90	4242825.04	R	21.42
526	559939.65	4242805.70	R	21.45
527	559971.08	4242815.37	R	21.08
528	559973.50	4242798.45	R	21.08
529	560019.43	4242811.75	R	20.75
530	560038.76	4242811.75	R	20.76
531	560058.10	4242817.79	R	20.53
532	560072.61	4242825.04	R	20.51
533	560102.82	4242826.25	R	20.48
534	560139.08	4242819.00	R	19.90
535	560303.46	4243043.81	R	20.03
536	560309.50	4243029.30	R	20.04
537	560319.17	4242999.09	R	19.95
538	560320.38	4242967.66	R	19.72
539	559936.03	4243481.34	S	22.37
540	559975.91	4243500.67	S	22.41
541	559992.84	4243511.55	S	22.43
542	560026.68	4243523.64	S	22.19
543	559939.65	4243460.79	S	22.27
544	559936.03	4243442.66	S	22.19
545	559961.41	4243442.66	S	22.23
546	560003.71	4243460.79	S	22.31
547	560042.39	4243484.96	S	22.34
548	560046.02	4243462.00	S	22.30
549	560060.52	4243440.24	S	22.25
550	560021.84	4243579.24	R	22.21
551	560038.76	4243592.53	R	22.11
552	560052.06	4243599.78	R	22.01
553	559753.52	4243136.87		21.59
554	560125.00	4243225.00		20.52
555	560225.00	4243225.00	P	20.71
556	560275.00	4243225.00	P	20.55
557	560325.00	4243225.20	P	20.00
558	560325.00	4243275.00	P	20.23
559	560125.00	4243175.00	P	20.16
560	560175.01	4243175.00	P	20.26
561	560225.00	4243175.00	P	20.43
562	560275.00	4243175.00	P	20.40

563	560325.00	4243175.00	P	20.10
564	560325.00	4243125.00	P	19.90
565	560375.00	4243075.00	P	19.92
566	560125.00	4243225.00	P	20.52
567	559781.90	4242994.98	P	21.62
568	559849.49	4243560.25	P	22.95
569	559884.01	4243576.07	P	23.23
570	559927.16	4243591.90	P	22.84
571	559958.81	4243607.72	P	22.63
572	559978.94	4243584.70	P	22.16
573	559938.67	4243563.13	P	22.46
574	559894.08	4243553.06	P	22.63
575	559863.88	4243537.24	P	22.56
576	560029.29	4243479.71	S	22.31

Plant Boundary Receptors

Receptor Groups

Record Number	Group ID	Group Description
1	R	Residential
2	N	Non-Residential
3	S	School
4	P	Park - Open Space

Meteorology Pathway

Met Input Data

Surface Met Data

Filename: KAPC13_17.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: KAPC13_17.PFL
Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 4.30 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2013			NAPA CO AIRPORT, CA US
Upper Air		2013			OAKLAND/WSO AP

Data Period

Data Period to Process

Start Date: 1/1/2013 Start Hour: 1 End Date: 12/31/2017 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Output Pathway

Results Summary

Napa Zinfadel Subdivision
PM2.5 Construction Modeling

PM10 - Concentration - Source Group: CON_PM25

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.10040	ug/m^3	559966.28	4243286.48	21.77	0.00	21.77	

Zinfandel Subdivision Project
Modeling Parameters for AERMOD Construction Modeling

Source	Description	Source Type	Size	Units	Release Height m	Initial Lateral Dimension m	Initial Vertical Dimension m
On-site Construction Equipment[1]	Project Site + Off-Site Limits of Disturbance	Area	38819.7	m^2	5	—	1.4
On-Road Construction Trucks[2,3]	El Centro Avenue to the East of Site	Line-Volume	363	meters	3.4	6.05	3.16
On-Road Construction Trucks[2,3]	El Centro Avenue to the West of SIte	Line-Volume	459	meters	3.4	6.05	3.16

1 Construction exhaust modeled as an area source. Release parameters for construction equipment exhaust modeling from SCAQMD (2008) for gaseous exhaust from construction equipment.

2 Only segments within 1,000 ft of site boundary were modeled.

3 On-Road construction trucks are Vendor and Haul Trucks, as estimated in CalEEMod.

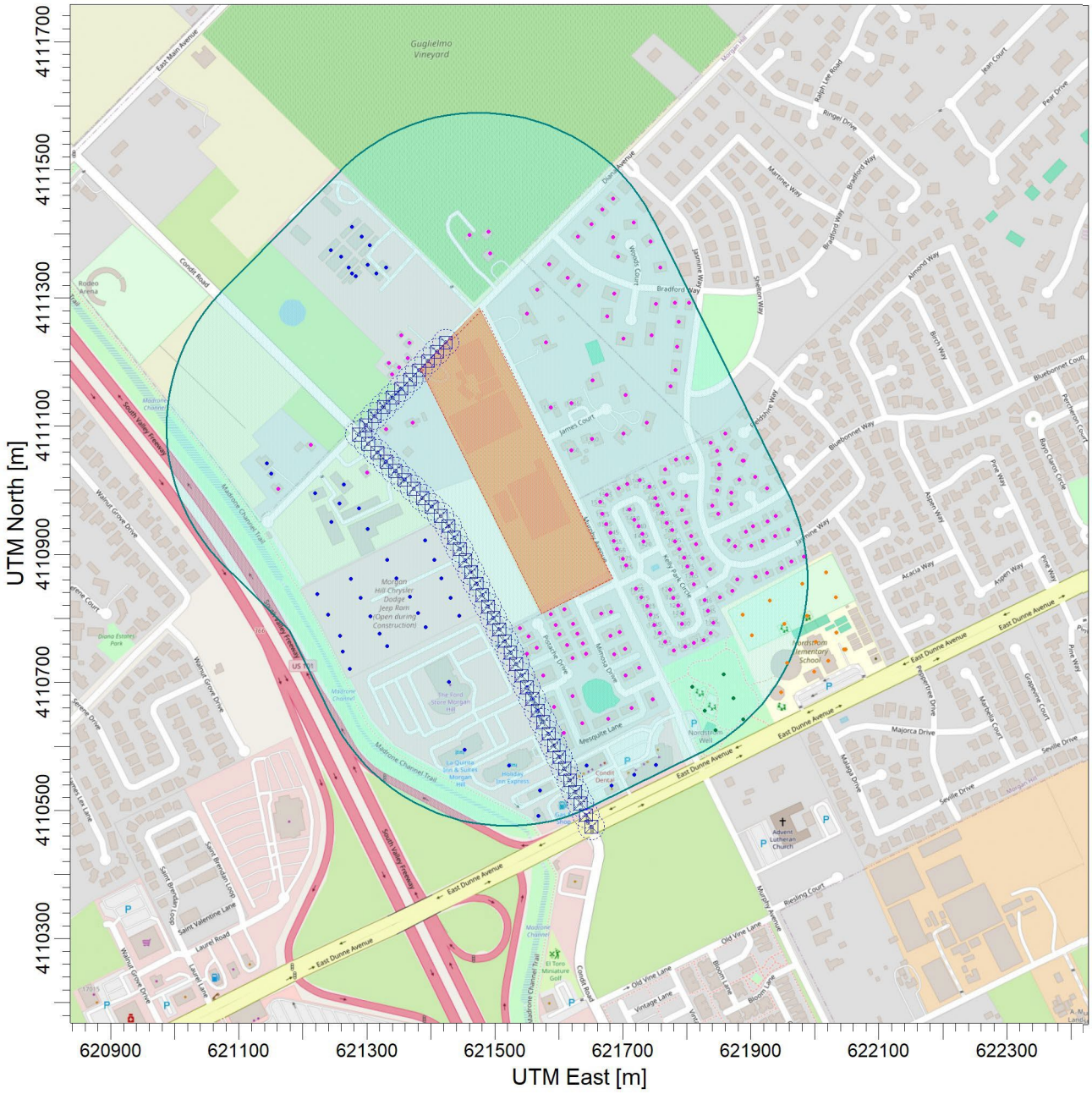
Trucks were modeled as adjacent volume sources following BAAQMD CEQA Guidelines Appendix E (April 2023). Roadway width = physical width plus 3 meters on each side for mixing., Truck Height = 4 meters.

Parameters calculated as per BAAQMD 2022 CEQA Guidelines and US EPA Haul Road Workgroup Final Report released on March 2, 2012 which suggests the use of Adjacent Volume Sources to represent the haul road.

Reference: BAAQMD 2022 CEQA Guidelines Appendix E: Table 11 Recommended Volume Source Configuration for Construction Projects

PROJECT TITLE:

North Diana Residential Project
AERMOD Modeling - Source and Receptor Configuration



Source Legend:

- Site
- Area Source -----
- Line-Volume

Receptor Legend:

- Residential
- Non-Residential
- School
- Park

COMPANY NAME:

MODELER:

SCALE: 1:10,000

0 0.3 km

DATE: **4/25/2024**

PROJECT NO.:

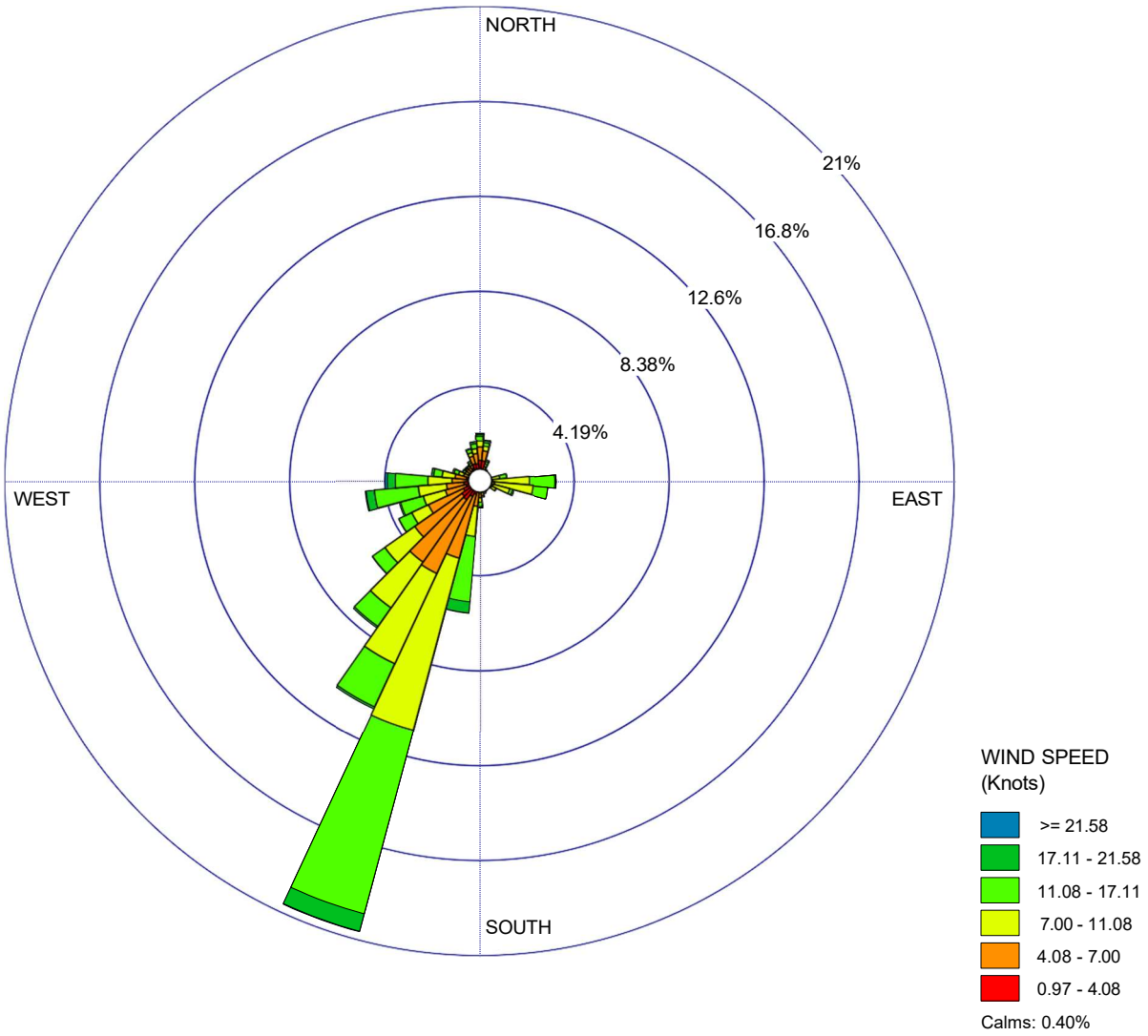
AERMOD View - Lakes Environmental Software

WIND ROSE PLOT:

Napa County Airport - KAPC
Wind Direction for Daytime Construction Hours

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

Wind Rose is generated just for the hours with emissions when construction would occur or from 8 AM – 5 PM. This corresponds to the modeling hours in AERMOD.

DATA PERIOD:

Start Date: 1/1/2013 - 08:00
End Date: 12/31/2017 - 17:00

CALM WINDS:

0.40%

AVG. WIND SPEED:

8.50 Knots

How to Read a Wind Rose Diagram

The wind rose above shows the general wind direction and speed for the meteorological data set used in the AERMOD modeling for the project.'

The circular format of the wind rose shows the direction the winds blew from and the length of each "spoke" around the circle shows how often the wind blew from that direction.

HARP2 - HRACalc (dated 22118) 4/11/2024 3:23:08 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 1.33

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 1.33
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk saved to: F:\Jobs\35520009\HARP\MEIRCancer_CancerRisk.csv
HRA ran successfully

*HARP - HRACalc v22118 4/11/2024 3:23:08 AM -
Cancer Risk - Input File: F:\Jobs\35520009\HARP\MEIRCancer_HRAInput.hra

GRP1	GRP2	Pollutant	Conc (ug/m3)	Risk	Scenario	Inhaation Risk
559966.28	4243286.48	DieselExhPM	0.02409	5.59e-06	1.33YrCancerRMP_Inh	5.59e-06

HARP2 - HRACalc (dated 22118) 4/11/2024 3:23:34 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCChronic
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating chronic risk
Chronic risk saved to: F:\Jobs\35520009\HARP\MEIRChronic_NCChronicRisk.csv
HRA ran successfully

*HARP - HRACalc v22118 4/11/2024 3:23:34 AM -
Chronic Risk - Input File: F:\Jobs\35520009\HARP\MEIRChronic_HRAInput.hra

UTME	UTMN	Pollutant	Conc (ug/m3)	CV	CNS	IMMUN	KIDNEY	GILV	REPRO	RESP	SKIN	EYE	B/T	ENDO	BLOOD	ODOR	GEN
559966.28	4243286.48	DieselExhPM	0.02409	0.0	0.0	0.0	0.0	0.0	0.0	0.004818	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HARP2 - HRACalc (dated 22118) 4/11/2024 3:24:32 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: Cancer
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16
Total Exposure Duration: 1.53

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 1.53
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
NOTE: The worker adjustment factors below are only used for cancer assessments. However, the GLC adjustment factor is also applied to 8-hr noncancer chronic assessments.
Worker adjustments factors enabled: YES
GLC adjustment factor: 4.2
Exposure frequency: 250

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk saved to: F:\Jobs\35520009\HARP\MEIWCancer_CancerRisk.csv
HRA ran successfully

*HARP - HRACalc v22118 4/11/2024 3:24:32 AM -
Cancer Risk - Input File: F:\Jobs\35520009\HARP\MEIWCancer_HRAInput.hra

GRP1	GRP2	Pollutant	Conc (ug/m3)	Risk	Scenario	Inhaation Risk
559753.52	4243136.87	DieselExhPM	0.00325	5.3948e-08	1.53YrCancerHighEnd_InhSoilDerm	5.3948e-08

UTMX	UTMY	Road Canc	Road Chro	Road PM2	Rail Cance	Rail Chron	Rail PM2.5	Location
559966.3	4243286	10.55	0.025	0.2	-3.40E+38	-3.40E+38	-3.40E+38	MEIR
559753.5	4243137	13.25	0.029	0.217	-3.40E+38	-3.40E+38	-3.40E+38	MEIW
559961.4	4243443	9.79	0.023	0.18	-3.40E+38	-3.40E+38	-3.40E+38	School

Data Provided By: BAAQMD as raster file (.tif) datasets
Roadway Screening Tool - Cancer Risk Last Updated December 8 2022
Roadway Screening Tool - Chronic Hazard Last Updated December 8 2022
Roadway Screening Tool - PM2.5 Last Updated December 8 2022
Rail Screening Tool - Cancer Risk Last Updated January 30 2023
Rail Screening Tool - Chronic Hazard Last Updated January 30 2023
Rail Screening Tool - PM2.5 Last Updated January 30 2023

HARP2 - HRACalc (dated 22118) 4/11/2024 4:04:18 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: NCChronic
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating chronic risk
Chronic risk saved to: F:\Jobs\35520009\HARP\MEIWChronic_NCChronicRisk.csv
HRA ran successfully

*HARP - HRACalc v22118 4/11/2024 4:04:18 AM -
Chronic Risk - Input File: F:\Jobs\35520009\HARP\MEIWChronic_HRAInput.hra

UTME	UTMN	Pollutant	Conc (ug/m3)	CV	CNS	IMMUN	KIDNEY	GILV	REPRO	RESP	SKIN	EYE	B/T	ENDO	BLOOD	ODOR	GEN
559753.52	4243136.87	DieselExhPM	0.00325	0.0	0.0	0.0	0.0	0.0	0.0	0.00065	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HEALTH RISK ASSESSMENT CALCULATIONS

The HRA was conducted utilizing the CARB's Hot Spots Analysis and Reporting Program Version 2 (HARP2) to automatically calculate risks for the projects using OEHHA promulgated cancer potency and reference exposure levels. (HARP2) is the recommended model for calculating and presenting HRA results because it follows the district's risk assessment guidance methodology and is consistent with the Air District's Regulation 2-5. Since AERMOD was run with project emission rates to directly calculate potential DPM and PM2.5 concentrations, the Health Risk Assessment Standalone Tool (RAST) version of HARP2 was used.

The HRA follows BAAQMD CEQA Guidelines based on OEHHA Guidance. This risk assessment intake methodology addresses children's greater sensitivity and health impacts from early exposure to carcinogenic compounds. The chemical intake or dose describing the frequency and duration of the exposure is estimated using receptor's breathing rates, exposure duration, and exposure frequency. The calculations include the use of age-specific weighting factors, breathing rates, fraction of time at home, and reduced exposure durations.

These factors are described below, followed by a summary of the HARP2 HRA inputs and cancer and noncancer risk results for selected for each receptor group (i.e., resident, off-site worker, and student).

Age Sensitivity Factors – Studies have shown that young animals are more sensitive than adult animals to exposure to many carcinogens (OEHHA, 2009). Therefore, OEHHA developed age sensitivity factors (ASFs) to account for the increased sensitivity to carcinogens during early-in-life exposures. Accordingly, the cancer risk methodology applies different ASFs by age groups. The ASFs utilized a 10-fold multiplier in sensitivity for the third trimester and infants less than age 2, a 3-fold increase in sensitivity for children ages 2 to 16 years old, and a sensitivity factor of 1 for ages 16 and older.

Daily breathing rates (age-specific daily air intake) – For residential receptors, the HRA utilizes the 95th percentile breathing rates for the most sensitive age groups (less than 2 years of age) and 80th percentile for all other age groups. This approach jointly developed by ARB and CAPCOA[1] and adopted by BAAQMD[2] is referred to as the "Risk Management Policy" and was developed to consider the new science in risk assessment while providing a reasonable estimate of potential cancer risk for risk management decisions. and used in this HRA. The HRA uses 95th percentile 8-hour breathing rates for moderate intensity activities for worker and student exposure.[3]

Time at home – The time at home applies only applies to residential receptors. Residents are assumed to be at home 350 days per year, which assumes individuals are away for approximately 2 weeks of

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[1] California Air Resources Board (ARB) and California Air Pollution Control Officers Association (CAPCOA). 2015. Risk Management Guidance for Stationary Sources of Air Toxics. July 23. Website: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/rma/rmgssat.pdf. Accessed April 8, 2024.

[2] Bay Area Air Quality Management District (BAAQMD). 2022. California Environmental Quality Act – Air Quality Guidelines Appendix E: Recommended Methods for Screening and Modeling Local Risks and Hazards. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4&sc_lang=en. Accessed March 7, 2024.

[3] Office of Environmental Health Hazard Assessment (OEHHA). 2015. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Website: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed March 29, 2024.

vacation. The fraction of time at home refers to the estimated amount of time residents stay at home during these 350 days. The HRA uses the OEHHA and BAAQMD recommended values of 73% time at home for 16-year-olds and above based on based on population and activity statistics. The HRA also assumes 100 percent time at home for receptors under age 16 to address exposures at local schools close to emitting sources. Even though infants and children may not be at their residence all the time, they are likely to remain in the neighborhood (at schools or neighbors) and would be exposed to similar levels of the pollutants.

Exposure Duration - OEHHA 2015 guidelines specify a 30-year residential exposure duration for estimating cancer risk at the maximum exposed individual resident (MEIR). This is based on studies showing that 30 years is a reasonable estimate of the 90th to 95th percentile of residency duration in the population. A 25-year standard exposure duration is the default to estimate cancer risk for off-site workers. However, risk assessors can use other exposure durations with proper justification and documentation. For example, short-term projects (e.g., construction projects) can now be evaluated for as short a duration as 6 months.

For a project with construction followed by operations, the HRA may be divided into 2 segments for the entire 30-year residential exposure duration.

Residential Cancer Risk

Cancer risk for individual resident receptors exposed to "Diesel Particulate Exhaust" (DPM) were calculated utilizing the "Risk Management Policy" option for inhalation, specifying that residents spend 100% time at home for ages less than 16 years old. Consistent with OEHHA guidance, the start of residential exposure was assumed to occur in the third trimester (-0.25 years) to accommodate the increased susceptibility of exposures in early life. Since the construction is anticipated to occur for 1.53 years, the residential exposure starts with the unborn child at the third trimester (when construction begins) and continues until the child is 1.28 years of age. Because there are no significant sources of TAC emissions during operations, the exposure assessment is limited to the duration of the proposed project construction or 1.53 years.

Worker Cancer Risk

Cancer risk and the chronic hazard index was calculated for the maximum impacted off-site worker based on the maximum DPM concentration at identified off-site receptors. 8-hour breathing rates for moderate intensity activities of 230 L/kg-8 hrs (applicable to 16–70-year adults) were used to calculate the daily dose via the inhalation route to the worker. The analysis assumes a start age of 16 years and an exposure duration equivalent to the construction duration of 1.53 years.

Since the construction emissions were modeled as a non-continuous source, the worker adjustment factor was used to adjust for the proper exposure concentration. When modeling a non-continuously emitting source (e.g., operating for eight hours per day and five days per week), the modeled long-term average concentrations are based on 24 hours a day and seven days per week for the period of the meteorological data set. Even though the emitting source is modeled using a non-continuous emissions schedule, the long-term concentration is still based on 24 hours a day and seven days per week. Thus, this concentration includes the zero hours when the source was not operating.

The worker adjustment factor (WAF) is used to determine the long-term concentration the worker is breathing during their work shift. Therefore, the long-term concentration is adjusted so it is based only on the hours when the worker is present. For this project, assuming the emitting source and worker's schedules are the same, the adjustment factor is 4.2 = (24 hours per day/8 hours per shift)x(7 days in a week/5 days in a work week).

HARP2 provides for the specification of the WAF for worker cancer risk assessments, and this was entered as 4.2 to make this adjustment.

Student Cancer Risk

Student cancer risk and chronic hazards were determined for Willow Elementary School (within 1,000 feet of the project site). The student risk calculations utilized a starting exposure age appropriate to elementary students (assumed 5 years) and a project specific exposure duration of 1.53 years.

Cancer risks utilized the 95th percentile 8-hour breathing rates for moderate activity specific to this age range. These breathing rates are documented in Table 5.8 of the OEHHA 2015 guideline document. For ages 2-9 the breathing rate is 640 (L/kg per 8 Hrs) and for ages 2-16 the breathing rate is 520 (L/kg-hr), consistent with BAAQMD recommended exposure values for students. HARP2 contains both age bins in its calculation database and for Students in the 2-9 age bin uses the higher, more conservative value.

Similar to the worker scenario, student exposures occur only when the non-continuous construction sources are emitting and thus students similarly inhale air with concentrations that are higher than AERMOD predicted long-term average concentrations. Therefore, the Worker (or Student) Adjustment Factor of 4.2 is also applied to the AERMOD predicted annual concentrations for the evaluation of student cancer risk.

Noncancer Chronic Health Risks

Chronic RELs are used to assess not only residential health impacts, but also worker and student health impacts.

Potential chronic noncancer health impacts use the long-term annual average concentration regardless of the emitting facility's schedule. As per OEHHA guidance, no adjustment factors were used to adjust this concentration for workers or students.

HARP2 Inputs and Results

HARP2 Output files are included to document the HRA exposure parameters and risk results.

HARP2 - HRACalc (dated 22118) 4/18/2024 7:34:13 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 1.33

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 1.33
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk saved to: F:\Jobs\35520009\HARP\ResCancerAllReceptors_CancerRisk.csv
HRA ran successfully

*HARP - HRACalc v22118 4/18/2024 7:34:13 AM -
Cancer Risk - Input File: F:\Jobs\35520009\HARP\ResCancerAllReceptors_HRAInput.hra

GRP1	GRP2	Pollutant	Conc (ug/m3)	Risk	Scenario	Inhaation Risk
559786	4243494	DieselExhPM	0.00095	2.2044e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2044e-07
559571	4243381	DieselExhPM	0.00063	1.4619e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4619e-07
559566	4242976	DieselExhPM	0.00016	3.7128e-08	1.33YrCancerDerived_Inh_FAH16to70	3.7128e-08
559511	4243435	DieselExhPM	0.00036	8.3537e-08	1.33YrCancerDerived_Inh_FAH16to70	8.3537e-08
560032	4242845	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559795	4243066	DieselExhPM	0.00193	4.4785e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4785e-07
559722	4243434	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
559659	4242922	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559877	4242874	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
559575	4243020	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559743	4243333	DieselExhPM	0.00292	6.7758e-07	1.33YrCancerDerived_Inh_FAH16to70	6.7758e-07
559869	4242899	DieselExhPM	0.00075	1.7404e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7404e-07
560007	4243008	DieselExhPM	0.00191	4.4321e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4321e-07
560067	4243502	DieselExhPM	0.00324	7.5183e-07	1.33YrCancerDerived_Inh_FAH16to70	7.5183e-07
559837	4243383	DieselExhPM	0.00497	1.1533e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1533e-06
560083	4243005	DieselExhPM	0.00109	2.5293e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5293e-07
560022	4242979	DieselExhPM	0.00135	3.1326e-07	1.33YrCancerDerived_Inh_FAH16to70	3.1326e-07
560055	4242907	DieselExhPM	0.00065	1.5083e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5083e-07
559617	4243316	DieselExhPM	0.0014	3.2487e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2487e-07
560009	4243389	DieselExhPM	0.00766	1.7775e-06	1.33YrCancerDerived_Inh_FAH16to70	1.7775e-06
560034	4243262	DieselExhPM	0.01323	3.07e-06	1.33YrCancerDerived_Inh_FAH16to70	3.07e-06
560206	4243383	DieselExhPM	0.00198	4.5945e-07	1.33YrCancerDerived_Inh_FAH16to70	4.5945e-07
559831	4242864	DieselExhPM	0.00059	1.3691e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3691e-07
560156	4242960	DieselExhPM	0.00048	1.1138e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1138e-07
560002	4243314	DieselExhPM	0.01389	3.2231e-06	1.33YrCancerDerived_Inh_FAH16to70	3.2231e-06
559504	4243463	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
560143	4243459	DieselExhPM	0.00264	6.126e-07	1.33YrCancerDerived_Inh_FAH16to70	6.126e-07
559680	4242898	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560230	4243054	DieselExhPM	0.00065	1.5083e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5083e-07
560120	4243497	DieselExhPM	0.00268	6.2189e-07	1.33YrCancerDerived_Inh_FAH16to70	6.2189e-07
559805	4243413	DieselExhPM	0.00257	5.9636e-07	1.33YrCancerDerived_Inh_FAH16to70	5.9636e-07
560112	4243546	DieselExhPM	0.00235	5.4531e-07	1.33YrCancerDerived_Inh_FAH16to70	5.4531e-07
559862	4243464	DieselExhPM	0.0026	6.0332e-07	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-07
560236	4243399	DieselExhPM	0.00158	3.6663e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6663e-07
559643	4243093	DieselExhPM	0.00059	1.3691e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3691e-07
559745	4242872	DieselExhPM	0.00043	9.978e-08	1.33YrCancerDerived_Inh_FAH16to70	9.978e-08
560208	4242849	DieselExhPM	0.00024	5.5691e-08	1.33YrCancerDerived_Inh_FAH16to70	5.5691e-08

560110	4243344	DieselExhPM	0.0045	1.0442e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-06
559567	4243075	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
560022	4243196	DieselExhPM	0.01945	4.5133e-06	1.33YrCancerDerived_Inh_FAH16to70	4.5133e-06
560237	4243105	DieselExhPM	0.00096	2.2277e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2277e-07
559582	4243444	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559760	4243309	DieselExhPM	0.00652	1.5129e-06	1.33YrCancerDerived_Inh_FAH16to70	1.5129e-06
559860	4243332	DieselExhPM	0.01052	2.4411e-06	1.33YrCancerDerived_Inh_FAH16to70	2.4411e-06
559538	4243477	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559527	4243344	DieselExhPM	0.00081	1.8796e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8796e-07
559565	4243357	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
560060	4242993	DieselExhPM	0.00121	2.8078e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8078e-07
559704	4243427	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
559722	4243108	DieselExhPM	0.00142	3.2951e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2951e-07
559585	4243295	DieselExhPM	0.00153	3.5503e-07	1.33YrCancerDerived_Inh_FAH16to70	3.5503e-07
559941	4242914	DieselExhPM	0.00088	2.042e-07	1.33YrCancerDerived_Inh_FAH16to70	2.042e-07
559554	4243238	DieselExhPM	0.00161	3.736e-07	1.33YrCancerDerived_Inh_FAH16to70	3.736e-07
559618	4242915	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08
559988	4243059	DieselExhPM	0.00344	7.9824e-07	1.33YrCancerDerived_Inh_FAH16to70	7.9824e-07
559666	4243196	DieselExhPM	0.00279	6.4741e-07	1.33YrCancerDerived_Inh_FAH16to70	6.4741e-07
559984	4242997	DieselExhPM	0.00167	3.8752e-07	1.33YrCancerDerived_Inh_FAH16to70	3.8752e-07
559742	4243384	DieselExhPM	0.0014	3.2487e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2487e-07
559798	4242883	DieselExhPM	0.00057	1.3227e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3227e-07
560104	4242860	DieselExhPM	0.0004	9.2819e-08	1.33YrCancerDerived_Inh_FAH16to70	9.2819e-08
559607	4243464	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559712	4243384	DieselExhPM	0.00097	2.2509e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2509e-07
560176	4243043	DieselExhPM	0.00077	1.7868e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7868e-07
560244	4243026	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
559851	4243500	DieselExhPM	0.00179	4.1536e-07	1.33YrCancerDerived_Inh_FAH16to70	4.1536e-07
559733	4243055	DieselExhPM	0.00098	2.2741e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2741e-07
560227	4243023	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559834	4242934	DieselExhPM	0.00083	1.926e-07	1.33YrCancerDerived_Inh_FAH16to70	1.926e-07
559630	4243424	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
559548	4243401	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559695	4243504	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
559601	4243411	DieselExhPM	0.0005	1.1602e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1602e-07
560139	4242868	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
559851	4242895	DieselExhPM	0.00071	1.6475e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6475e-07
560193	4242967	DieselExhPM	0.00041	9.5139e-08	1.33YrCancerDerived_Inh_FAH16to70	9.5139e-08
560151	4243222	DieselExhPM	0.00352	8.1681e-07	1.33YrCancerDerived_Inh_FAH16to70	8.1681e-07
559488	4243456	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08

560027	4243013	DieselExhPM	0.00191	4.4321e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4321e-07
560249	4243058	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
559687	4243326	DieselExhPM	0.00163	3.7824e-07	1.33YrCancerDerived_Inh_FAH16to70	3.7824e-07
560004	4242976	DieselExhPM	0.00137	3.179e-07	1.33YrCancerDerived_Inh_FAH16to70	3.179e-07
559731	4243528	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
560196	4243350	DieselExhPM	0.00221	5.1282e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1282e-07
559614	4243330	DieselExhPM	0.00119	2.7614e-07	1.33YrCancerDerived_Inh_FAH16to70	2.7614e-07
559514	4243074	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560042	4243032	DieselExhPM	0.00225	5.2211e-07	1.33YrCancerDerived_Inh_FAH16to70	5.2211e-07
559501	4243433	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559620	4243440	DieselExhPM	0.00041	9.5139e-08	1.33YrCancerDerived_Inh_FAH16to70	9.5139e-08
560010	4243300	DieselExhPM	0.01395	3.2371e-06	1.33YrCancerDerived_Inh_FAH16to70	3.2371e-06
559587	4243080	DieselExhPM	0.0004	9.2819e-08	1.33YrCancerDerived_Inh_FAH16to70	9.2819e-08
560211	4242971	DieselExhPM	0.00039	9.0498e-08	1.33YrCancerDerived_Inh_FAH16to70	9.0498e-08
559763	4242840	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
559511	4243134	DieselExhPM	0.0006	1.3923e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3923e-07
560245	4243370	DieselExhPM	0.00152	3.5271e-07	1.33YrCancerDerived_Inh_FAH16to70	3.5271e-07
559578	4242978	DieselExhPM	0.00018	4.1769e-08	1.33YrCancerDerived_Inh_FAH16to70	4.1769e-08
560158	4242872	DieselExhPM	0.00032	7.4255e-08	1.33YrCancerDerived_Inh_FAH16to70	7.4255e-08
559680	4242903	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
559970	4243055	DieselExhPM	0.00289	6.7062e-07	1.33YrCancerDerived_Inh_FAH16to70	6.7062e-07
560030	4243183	DieselExhPM	0.01859	4.3138e-06	1.33YrCancerDerived_Inh_FAH16to70	4.3138e-06
559514	4243409	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
559535	4243396	DieselExhPM	0.00052	1.2066e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2066e-07
560048	4243297	DieselExhPM	0.00954	2.2137e-06	1.33YrCancerDerived_Inh_FAH16to70	2.2137e-06
560015	4242841	DieselExhPM	0.00053	1.2299e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2299e-07
559814	4243062	DieselExhPM	0.00206	4.7802e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7802e-07
560020	4242900	DieselExhPM	0.00073	1.6939e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6939e-07
559881	4243433	DieselExhPM	0.00386	8.957e-07	1.33YrCancerDerived_Inh_FAH16to70	8.957e-07
560147	4243085	DieselExhPM	0.00157	3.6431e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6431e-07
560200	4243097	DieselExhPM	0.00115	2.6685e-07	1.33YrCancerDerived_Inh_FAH16to70	2.6685e-07
559787	4243303	DieselExhPM	0.01163	2.6987e-06	1.33YrCancerDerived_Inh_FAH16to70	2.6987e-06
559640	4243408	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560209	4243019	DieselExhPM	0.00053	1.2299e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2299e-07
560212	4243050	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
559655	4243269	DieselExhPM	0.00295	6.8454e-07	1.33YrCancerDerived_Inh_FAH16to70	6.8454e-07
560155	4243007	DieselExhPM	0.00064	1.4851e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4851e-07
559974	4243274	DieselExhPM	0.02396	5.5599e-06	1.33YrCancerDerived_Inh_FAH16to70	5.5599e-06
559966	4243286	DieselExhPM	0.02409	5.59e-06	1.33YrCancerDerived_Inh_FAH16to70	5.59e-06
559859	4243487	DieselExhPM	0.0021	4.873e-07	1.33YrCancerDerived_Inh_FAH16to70	4.873e-07

560050	4242849	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
559670	4243445	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
559781	4243315	DieselExhPM	0.00847	1.9654e-06	1.33YrCancerDerived_Inh_FAH16to70	1.9654e-06
560127	4242923	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
559669	4243159	DieselExhPM	0.00181	4.2001e-07	1.33YrCancerDerived_Inh_FAH16to70	4.2001e-07
560183	4243093	DieselExhPM	0.00127	2.947e-07	1.33YrCancerDerived_Inh_FAH16to70	2.947e-07
560130	4243312	DieselExhPM	0.0041	9.5139e-07	1.33YrCancerDerived_Inh_FAH16to70	9.5139e-07
559667	4242971	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559545	4243369	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
559944	4242999	DieselExhPM	0.00156	3.6199e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6199e-07
560073	4242911	DieselExhPM	0.0006	1.3923e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3923e-07
560154	4243440	DieselExhPM	0.00259	6.01e-07	1.33YrCancerDerived_Inh_FAH16to70	6.01e-07
559874	4243472	DieselExhPM	0.00265	6.1493e-07	1.33YrCancerDerived_Inh_FAH16to70	6.1493e-07
560127	4243411	DieselExhPM	0.00332	7.704e-07	1.33YrCancerDerived_Inh_FAH16to70	7.704e-07
560192	4243477	DieselExhPM	0.00191	4.4321e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4321e-07
560264	4243031	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
559576	4243459	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559885	4243337	DieselExhPM	0.01165	2.7034e-06	1.33YrCancerDerived_Inh_FAH16to70	2.7034e-06
559547	4243449	DieselExhPM	0.00034	7.8896e-08	1.33YrCancerDerived_Inh_FAH16to70	7.8896e-08
560233	4243285	DieselExhPM	0.00172	3.9912e-07	1.33YrCancerDerived_Inh_FAH16to70	3.9912e-07
559681	4243221	DieselExhPM	0.00389	9.0266e-07	1.33YrCancerDerived_Inh_FAH16to70	9.0266e-07
560060	4243278	DieselExhPM	0.00919	2.1325e-06	1.33YrCancerDerived_Inh_FAH16to70	2.1325e-06
559759	4243481	DieselExhPM	0.00075	1.7404e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7404e-07
559723	4243468	DieselExhPM	0.00054	1.2531e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2531e-07
559804	4242928	DieselExhPM	0.00072	1.6707e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6707e-07
559669	4243362	DieselExhPM	0.00097	2.2509e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2509e-07
559838	4243423	DieselExhPM	0.00319	7.4023e-07	1.33YrCancerDerived_Inh_FAH16to70	7.4023e-07
559481	4243378	DieselExhPM	0.00055	1.2763e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2763e-07
560086	4243333	DieselExhPM	0.00574	1.332e-06	1.33YrCancerDerived_Inh_FAH16to70	1.332e-06
560123	4243031	DieselExhPM	0.00097	2.2509e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2509e-07
559909	4242991	DieselExhPM	0.0014	3.2487e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2487e-07
559635	4243296	DieselExhPM	0.00193	4.4785e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4785e-07
560083	4243183	DieselExhPM	0.00914	2.1209e-06	1.33YrCancerDerived_Inh_FAH16to70	2.1209e-06
560026	4243274	DieselExhPM	0.01356	3.1466e-06	1.33YrCancerDerived_Inh_FAH16to70	3.1466e-06
559764	4243115	DieselExhPM	0.00267	6.1957e-07	1.33YrCancerDerived_Inh_FAH16to70	6.1957e-07
560229	4242975	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559659	4242942	DieselExhPM	0.00028	6.4973e-08	1.33YrCancerDerived_Inh_FAH16to70	6.4973e-08
559653	4243155	DieselExhPM	0.0015	3.4807e-07	1.33YrCancerDerived_Inh_FAH16to70	3.4807e-07
560180	4242934	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559919	4243112	DieselExhPM	0.00611	1.4178e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4178e-06

559562	4243407	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
560066	4243258	DieselExhPM	0.00927	2.1511e-06	1.33YrCancerDerived_Inh_FAH16to70	2.1511e-06
560104	4243028	DieselExhPM	0.00111	2.5757e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5757e-07
559715	4243508	DieselExhPM	0.0004	9.2819e-08	1.33YrCancerDerived_Inh_FAH16to70	9.2819e-08
560287	4243076	DieselExhPM	0.0006	1.3923e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3923e-07
559594	4242939	DieselExhPM	0.00017	3.9448e-08	1.33YrCancerDerived_Inh_FAH16to70	3.9448e-08
560137	4243004	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
560017	4243374	DieselExhPM	0.00807	1.8726e-06	1.33YrCancerDerived_Inh_FAH16to70	1.8726e-06
559852	4243427	DieselExhPM	0.0034	7.8896e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8896e-07
560211	4242883	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
560064	4243350	DieselExhPM	0.00645	1.4967e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4967e-06
560175	4242876	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
559572	4243408	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
560290	4242866	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08
560191	4243015	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560042	4243249	DieselExhPM	0.01278	2.9656e-06	1.33YrCancerDerived_Inh_FAH16to70	2.9656e-06
560172	4243502	DieselExhPM	0.00204	4.7338e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7338e-07
560036	4243316	DieselExhPM	0.00973	2.2578e-06	1.33YrCancerDerived_Inh_FAH16to70	2.2578e-06
559534	4243443	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
559611	4243173	DieselExhPM	0.00146	3.3879e-07	1.33YrCancerDerived_Inh_FAH16to70	3.3879e-07
559590	4242980	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08
559483	4243212	DieselExhPM	0.00104	2.4133e-07	1.33YrCancerDerived_Inh_FAH16to70	2.4133e-07
560019	4243286	DieselExhPM	0.0138	3.2023e-06	1.33YrCancerDerived_Inh_FAH16to70	3.2023e-06
559668	4243039	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
560094	4243465	DieselExhPM	0.00338	7.8432e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8432e-07
560165	4243089	DieselExhPM	0.0014	3.2487e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2487e-07
560069	4243193	DieselExhPM	0.01107	2.5688e-06	1.33YrCancerDerived_Inh_FAH16to70	2.5688e-06
560264	4242983	DieselExhPM	0.00034	7.8896e-08	1.33YrCancerDerived_Inh_FAH16to70	7.8896e-08
560271	4243330	DieselExhPM	0.00131	3.0398e-07	1.33YrCancerDerived_Inh_FAH16to70	3.0398e-07
560129	4243080	DieselExhPM	0.00176	4.084e-07	1.33YrCancerDerived_Inh_FAH16to70	4.084e-07
560004	4243066	DieselExhPM	0.00423	9.8156e-07	1.33YrCancerDerived_Inh_FAH16to70	9.8156e-07
559679	4243501	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559530	4243123	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560146	4243374	DieselExhPM	0.00315	7.3095e-07	1.33YrCancerDerived_Inh_FAH16to70	7.3095e-07
559520	4243076	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
559595	4243423	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
559995	4242925	DieselExhPM	0.00093	2.158e-07	1.33YrCancerDerived_Inh_FAH16to70	2.158e-07
560074	4243557	DieselExhPM	0.0025	5.8012e-07	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-07
559718	4243283	DieselExhPM	0.00395	9.1659e-07	1.33YrCancerDerived_Inh_FAH16to70	9.1659e-07
559653	4242995	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08

559999	4243405	DieselExhPM	0.00709	1.6452e-06	1.33YrCancerDerived_Inh_FAH16to70	1.6452e-06
560108	4243515	DieselExhPM	0.00266	6.1725e-07	1.33YrCancerDerived_Inh_FAH16to70	6.1725e-07
559993	4243328	DieselExhPM	0.01362	3.1605e-06	1.33YrCancerDerived_Inh_FAH16to70	3.1605e-06
559935	4243047	DieselExhPM	0.00236	5.4763e-07	1.33YrCancerDerived_Inh_FAH16to70	5.4763e-07
559811	4243484	DieselExhPM	0.00138	3.2023e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2023e-07
559846	4243520	DieselExhPM	0.00146	3.3879e-07	1.33YrCancerDerived_Inh_FAH16to70	3.3879e-07
559622	4243303	DieselExhPM	0.00166	3.852e-07	1.33YrCancerDerived_Inh_FAH16to70	3.852e-07
560065	4243209	DieselExhPM	0.01132	2.6268e-06	1.33YrCancerDerived_Inh_FAH16to70	2.6268e-06
560139	4242956	DieselExhPM	0.00052	1.2066e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2066e-07
559560	4243141	DieselExhPM	0.00078	1.81e-07	1.33YrCancerDerived_Inh_FAH16to70	1.81e-07
559706	4243460	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
559789	4243546	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
559732	4243210	DieselExhPM	0.00648	1.5037e-06	1.33YrCancerDerived_Inh_FAH16to70	1.5037e-06
559860	4243273	DieselExhPM	0.02145	4.9774e-06	1.33YrCancerDerived_Inh_FAH16to70	4.9774e-06
559847	4242968	DieselExhPM	0.00105	2.4365e-07	1.33YrCancerDerived_Inh_FAH16to70	2.4365e-07
560040	4242983	DieselExhPM	0.00128	2.9702e-07	1.33YrCancerDerived_Inh_FAH16to70	2.9702e-07
559506	4243222	DieselExhPM	0.00121	2.8078e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8078e-07
559666	4243304	DieselExhPM	0.00199	4.6177e-07	1.33YrCancerDerived_Inh_FAH16to70	4.6177e-07
559761	4243391	DieselExhPM	0.00173	4.0144e-07	1.33YrCancerDerived_Inh_FAH16to70	4.0144e-07
559950	4243314	DieselExhPM	0.02266	5.2582e-06	1.33YrCancerDerived_Inh_FAH16to70	5.2582e-06
559844	4243067	DieselExhPM	0.00252	5.8476e-07	1.33YrCancerDerived_Inh_FAH16to70	5.8476e-07
559606	4243085	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
560037	4242904	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559797	4243425	DieselExhPM	0.00204	4.7338e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7338e-07
559694	4243047	DieselExhPM	0.00061	1.4155e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4155e-07
559494	4243351	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
560091	4242915	DieselExhPM	0.00055	1.2763e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2763e-07
559780	4242879	DieselExhPM	0.00052	1.2066e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2066e-07
560263	4243103	DieselExhPM	0.00081	1.8796e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8796e-07
560127	4243248	DieselExhPM	0.00471	1.0929e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0929e-06
559603	4243018	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
559945	4242884	DieselExhPM	0.00075	1.7404e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7404e-07
559881	4243396	DieselExhPM	0.00549	1.2739e-06	1.33YrCancerDerived_Inh_FAH16to70	1.2739e-06
560103	4242948	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
559926	4242995	DieselExhPM	0.00147	3.4111e-07	1.33YrCancerDerived_Inh_FAH16to70	3.4111e-07
559879	4243067	DieselExhPM	0.00279	6.4741e-07	1.33YrCancerDerived_Inh_FAH16to70	6.4741e-07
560141	4243035	DieselExhPM	0.00089	2.0652e-07	1.33YrCancerDerived_Inh_FAH16to70	2.0652e-07
559575	4243359	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
559662	4243098	DieselExhPM	0.00071	1.6475e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6475e-07
560121	4242864	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08

559641	4242992	DieselExhPM	0.00028	6.4973e-08	1.33YrCancerDerived_Inh_FAH16to70	6.4973e-08
559905	4242906	DieselExhPM	0.00082	1.9028e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9028e-07
559602	4243186	DieselExhPM	0.00161	3.736e-07	1.33YrCancerDerived_Inh_FAH16to70	3.736e-07
559558	4243376	DieselExhPM	0.00065	1.5083e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5083e-07
559540	4243070	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
559595	4243157	DieselExhPM	0.0011	2.5525e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5525e-07
559607	4243400	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560201	4243286	DieselExhPM	0.00223	5.1747e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1747e-07
559610	4242913	DieselExhPM	0.00018	4.1769e-08	1.33YrCancerDerived_Inh_FAH16to70	4.1769e-08
559613	4243392	DieselExhPM	0.00061	1.4155e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4155e-07
559967	4243412	DieselExhPM	0.00713	1.6545e-06	1.33YrCancerDerived_Inh_FAH16to70	1.6545e-06
559489	4243172	DieselExhPM	0.00081	1.8796e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8796e-07
560094	4243083	DieselExhPM	0.00277	6.4277e-07	1.33YrCancerDerived_Inh_FAH16to70	6.4277e-07
559821	4243473	DieselExhPM	0.00168	3.8984e-07	1.33YrCancerDerived_Inh_FAH16to70	3.8984e-07
559572	4243491	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560050	4243236	DieselExhPM	0.01229	2.8519e-06	1.33YrCancerDerived_Inh_FAH16to70	2.8519e-06
560049	4242937	DieselExhPM	0.00082	1.9028e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9028e-07
559653	4242898	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
560090	4243542	DieselExhPM	0.00256	5.9404e-07	1.33YrCancerDerived_Inh_FAH16to70	5.9404e-07
559522	4243439	DieselExhPM	0.00036	8.3537e-08	1.33YrCancerDerived_Inh_FAH16to70	8.3537e-08
559589	4243498	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
559506	4243141	DieselExhPM	0.00064	1.4851e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4851e-07
559477	4243424	DieselExhPM	0.00038	8.8178e-08	1.33YrCancerDerived_Inh_FAH16to70	8.8178e-08
559631	4243209	DieselExhPM	0.00236	5.4763e-07	1.33YrCancerDerived_Inh_FAH16to70	5.4763e-07
560091	4242858	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
559640	4243195	DieselExhPM	0.00223	5.1747e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1747e-07
559621	4242961	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559961	4243374	DieselExhPM	0.01083	2.5131e-06	1.33YrCancerDerived_Inh_FAH16to70	2.5131e-06
559841	4243113	DieselExhPM	0.00472	1.0953e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0953e-06
560121	4242952	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560082	4243478	DieselExhPM	0.00339	7.8664e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8664e-07
559833	4242891	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
559550	4243027	DieselExhPM	0.00021	4.873e-08	1.33YrCancerDerived_Inh_FAH16to70	4.873e-08
559800	4243501	DieselExhPM	0.00106	2.4597e-07	1.33YrCancerDerived_Inh_FAH16to70	2.4597e-07
559911	4243362	DieselExhPM	0.01047	2.4295e-06	1.33YrCancerDerived_Inh_FAH16to70	2.4295e-06
559899	4243069	DieselExhPM	0.00297	6.8918e-07	1.33YrCancerDerived_Inh_FAH16to70	6.8918e-07
559789	4242850	DieselExhPM	0.00048	1.1138e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1138e-07
560101	4242998	DieselExhPM	0.00088	2.042e-07	1.33YrCancerDerived_Inh_FAH16to70	2.042e-07
560014	4243209	DieselExhPM	0.02032	4.7152e-06	1.33YrCancerDerived_Inh_FAH16to70	4.7152e-06
559686	4243164	DieselExhPM	0.00227	5.2675e-07	1.33YrCancerDerived_Inh_FAH16to70	5.2675e-07

559971	4243360	DieselExhPM	0.01212	2.8124e-06	1.33YrCancerDerived_Inh_FAH16to70	2.8124e-06
559879	4242870	DieselExhPM	0.00066	1.5315e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5315e-07
559915	4242958	DieselExhPM	0.00113	2.6221e-07	1.33YrCancerDerived_Inh_FAH16to70	2.6221e-07
560109	4242919	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559742	4243476	DieselExhPM	0.00063	1.4619e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4619e-07
559608	4243346	DieselExhPM	0.00098	2.2741e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2741e-07
559555	4243484	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560228	4242888	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560120	4243328	DieselExhPM	0.00432	1.0024e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0024e-06
559708	4243300	DieselExhPM	0.00272	6.3117e-07	1.33YrCancerDerived_Inh_FAH16to70	6.3117e-07
559624	4243089	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
560200	4243266	DieselExhPM	0.00225	5.2211e-07	1.33YrCancerDerived_Inh_FAH16to70	5.2211e-07
559679	4243346	DieselExhPM	0.00122	2.831e-07	1.33YrCancerDerived_Inh_FAH16to70	2.831e-07
560190	4242845	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560056	4243523	DieselExhPM	0.00302	7.0078e-07	1.33YrCancerDerived_Inh_FAH16to70	7.0078e-07
559606	4243502	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560175	4242964	DieselExhPM	0.00044	1.021e-07	1.33YrCancerDerived_Inh_FAH16to70	1.021e-07
560147	4243517	DieselExhPM	0.00222	5.1514e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1514e-07
560099	4243152	DieselExhPM	0.00642	1.4897e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4897e-06
560038	4243554	DieselExhPM	0.00266	6.1725e-07	1.33YrCancerDerived_Inh_FAH16to70	6.1725e-07
559616	4243156	DieselExhPM	0.00121	2.8078e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8078e-07
559755	4243059	DieselExhPM	0.00127	2.947e-07	1.33YrCancerDerived_Inh_FAH16to70	2.947e-07
559679	4243270	DieselExhPM	0.00352	8.1681e-07	1.33YrCancerDerived_Inh_FAH16to70	8.1681e-07
559766	4242842	DieselExhPM	0.00043	9.978e-08	1.33YrCancerDerived_Inh_FAH16to70	9.978e-08
560045	4243426	DieselExhPM	0.0051	1.1834e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-06
559647	4243034	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559563	4243426	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
559775	4243062	DieselExhPM	0.00157	3.6431e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6431e-07
559807	4242859	DieselExhPM	0.00053	1.2299e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2299e-07
560286	4243333	DieselExhPM	0.00119	2.7614e-07	1.33YrCancerDerived_Inh_FAH16to70	2.7614e-07
560130	4243515	DieselExhPM	0.00242	5.6155e-07	1.33YrCancerDerived_Inh_FAH16to70	5.6155e-07
560146	4243254	DieselExhPM	0.00379	8.7946e-07	1.33YrCancerDerived_Inh_FAH16to70	8.7946e-07
559980	4243015	DieselExhPM	0.00197	4.5713e-07	1.33YrCancerDerived_Inh_FAH16to70	4.5713e-07
559649	4242921	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
560251	4243289	DieselExhPM	0.0015	3.4807e-07	1.33YrCancerDerived_Inh_FAH16to70	3.4807e-07
560289	4242957	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559932	4242962	DieselExhPM	0.00118	2.7382e-07	1.33YrCancerDerived_Inh_FAH16to70	2.7382e-07
560156	4243358	DieselExhPM	0.003	6.9614e-07	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-07
560247	4242892	DieselExhPM	0.00024	5.5691e-08	1.33YrCancerDerived_Inh_FAH16to70	5.5691e-08
559775	4243540	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07

559913	4243406	DieselExhPM	0.00623	1.4457e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4457e-06
559850	4242868	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
560144	4242926	DieselExhPM	0.00043	9.978e-08	1.33YrCancerDerived_Inh_FAH16to70	9.978e-08
559513	4243341	DieselExhPM	0.0008	1.8564e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8564e-07
559502	4243335	DieselExhPM	0.00081	1.8796e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8796e-07
560252	4243332	DieselExhPM	0.00148	3.4343e-07	1.33YrCancerDerived_Inh_FAH16to70	3.4343e-07
559851	4243387	DieselExhPM	0.00513	1.1904e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1904e-06
559523	4243361	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
560283	4242898	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559813	4243321	DieselExhPM	0.01125	2.6105e-06	1.33YrCancerDerived_Inh_FAH16to70	2.6105e-06
559599	4243265	DieselExhPM	0.00204	4.7338e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7338e-07
559960	4242918	DieselExhPM	0.00091	2.1116e-07	1.33YrCancerDerived_Inh_FAH16to70	2.1116e-07
560108	4243134	DieselExhPM	0.00477	1.1069e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1069e-06
559634	4243149	DieselExhPM	0.00122	2.831e-07	1.33YrCancerDerived_Inh_FAH16to70	2.831e-07
560104	4243447	DieselExhPM	0.0034	7.8896e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8896e-07
560252	4242949	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560086	4243320	DieselExhPM	0.00601	1.3946e-06	1.33YrCancerDerived_Inh_FAH16to70	1.3946e-06
560177	4243489	DieselExhPM	0.00204	4.7338e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7338e-07
559594	4243201	DieselExhPM	0.00173	4.0144e-07	1.33YrCancerDerived_Inh_FAH16to70	4.0144e-07
559997	4243327	DieselExhPM	0.01317	3.0561e-06	1.33YrCancerDerived_Inh_FAH16to70	3.0561e-06
559901	4242875	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
559998	4243235	DieselExhPM	0.02222	5.1561e-06	1.33YrCancerDerived_Inh_FAH16to70	5.1561e-06
559958	4243299	DieselExhPM	0.0238	5.5227e-06	1.33YrCancerDerived_Inh_FAH16to70	5.5227e-06
559861	4243065	DieselExhPM	0.0026	6.0332e-07	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-07
560042	4243015	DieselExhPM	0.0018	4.1769e-07	1.33YrCancerDerived_Inh_FAH16to70	4.1769e-07
560166	4243260	DieselExhPM	0.00307	7.1239e-07	1.33YrCancerDerived_Inh_FAH16to70	7.1239e-07
559546	4242997	DieselExhPM	0.00017	3.9448e-08	1.33YrCancerDerived_Inh_FAH16to70	3.9448e-08
559748	4243531	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
559680	4242925	DieselExhPM	0.00032	7.4255e-08	1.33YrCancerDerived_Inh_FAH16to70	7.4255e-08
559659	4243377	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
560067	4242941	DieselExhPM	0.00075	1.7404e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7404e-07
559624	4242916	DieselExhPM	0.0002	4.6409e-08	1.33YrCancerDerived_Inh_FAH16to70	4.6409e-08
560162	4242930	DieselExhPM	0.0004	9.2819e-08	1.33YrCancerDerived_Inh_FAH16to70	9.2819e-08
559952	4243388	DieselExhPM	0.00917	2.1279e-06	1.33YrCancerDerived_Inh_FAH16to70	2.1279e-06
559788	4243464	DieselExhPM	0.00124	2.8774e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8774e-07
559887	4242902	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
559986	4242972	DieselExhPM	0.00134	3.1094e-07	1.33YrCancerDerived_Inh_FAH16to70	3.1094e-07
560217	4242942	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559611	4242985	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559923	4242880	DieselExhPM	0.00072	1.6707e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6707e-07

559689	4243453	DieselExhPM	0.00046	1.0674e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0674e-07
560193	4242880	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
559626	4243030	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
560001	4242896	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
559629	4242918	DieselExhPM	0.00021	4.873e-08	1.33YrCancerDerived_Inh_FAH16to70	4.873e-08
559509	4243356	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559816	4243120	DieselExhPM	0.00462	1.0721e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0721e-06
559768	4243350	DieselExhPM	0.00355	8.2377e-07	1.33YrCancerDerived_Inh_FAH16to70	8.2377e-07
559729	4242966	DieselExhPM	0.00055	1.2763e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2763e-07
560282	4242987	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559724	4243553	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
559667	4243527	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559763	4243535	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
559670	4242924	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
559775	4243456	DieselExhPM	0.00112	2.5989e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5989e-07
559632	4243356	DieselExhPM	0.00093	2.158e-07	1.33YrCancerDerived_Inh_FAH16to70	2.158e-07
560250	4242850	DieselExhPM	0.00021	4.873e-08	1.33YrCancerDerived_Inh_FAH16to70	4.873e-08
559740	4243109	DieselExhPM	0.00181	4.2001e-07	1.33YrCancerDerived_Inh_FAH16to70	4.2001e-07
560006	4243222	DieselExhPM	0.02135	4.9542e-06	1.33YrCancerDerived_Inh_FAH16to70	4.9542e-06
559834	4242861	DieselExhPM	0.00058	1.3459e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3459e-07
559833	4243327	DieselExhPM	0.01134	2.6314e-06	1.33YrCancerDerived_Inh_FAH16to70	2.6314e-06
560270	4242953	DieselExhPM	0.00028	6.4973e-08	1.33YrCancerDerived_Inh_FAH16to70	6.4973e-08
559950	4242965	DieselExhPM	0.00124	2.8774e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8774e-07
560166	4243342	DieselExhPM	0.00285	6.6133e-07	1.33YrCancerDerived_Inh_FAH16to70	6.6133e-07
559966	4243109	DieselExhPM	0.00661	1.5338e-06	1.33YrCancerDerived_Inh_FAH16to70	1.5338e-06
560014	4242929	DieselExhPM	0.00091	2.1116e-07	1.33YrCancerDerived_Inh_FAH16to70	2.1116e-07
559653	4243215	DieselExhPM	0.00292	6.7758e-07	1.33YrCancerDerived_Inh_FAH16to70	6.7758e-07
559683	4243100	DieselExhPM	0.00086	1.9956e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9956e-07
559632	4242989	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
559821	4243382	DieselExhPM	0.00445	1.0326e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0326e-06
559699	4243541	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560226	4242853	DieselExhPM	0.00023	5.3371e-08	1.33YrCancerDerived_Inh_FAH16to70	5.3371e-08
559621	4242987	DieselExhPM	0.00024	5.5691e-08	1.33YrCancerDerived_Inh_FAH16to70	5.5691e-08
560024	4243335	DieselExhPM	0.00973	2.2578e-06	1.33YrCancerDerived_Inh_FAH16to70	2.2578e-06
559777	4243408	DieselExhPM	0.00184	4.2697e-07	1.33YrCancerDerived_Inh_FAH16to70	4.2697e-07
560032	4242933	DieselExhPM	0.00088	2.042e-07	1.33YrCancerDerived_Inh_FAH16to70	2.042e-07
559486	4243330	DieselExhPM	0.0008	1.8564e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8564e-07
559966	4242889	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
560109	4243286	DieselExhPM	0.00535	1.2415e-06	1.33YrCancerDerived_Inh_FAH16to70	1.2415e-06
559670	4242959	DieselExhPM	0.00032	7.4255e-08	1.33YrCancerDerived_Inh_FAH16to70	7.4255e-08

559650	4243392	DieselExhPM	0.00066	1.5315e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5315e-07
559722	4243369	DieselExhPM	0.00127	2.947e-07	1.33YrCancerDerived_Inh_FAH16to70	2.947e-07
559479	4243121	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
560088	4242945	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
559885	4243342	DieselExhPM	0.01073	2.4899e-06	1.33YrCancerDerived_Inh_FAH16to70	2.4899e-06
559544	4243345	DieselExhPM	0.00084	1.9492e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9492e-07
559990	4243248	DieselExhPM	0.02289	5.3116e-06	1.33YrCancerDerived_Inh_FAH16to70	5.3116e-06
559634	4242919	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
560236	4243327	DieselExhPM	0.00166	3.852e-07	1.33YrCancerDerived_Inh_FAH16to70	3.852e-07
560058	4243223	DieselExhPM	0.01171	2.7173e-06	1.33YrCancerDerived_Inh_FAH16to70	2.7173e-06
559639	4243342	DieselExhPM	0.00111	2.5757e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5757e-07
559624	4243506	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
559538	4243021	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08
559942	4243406	DieselExhPM	0.00724	1.68e-06	1.33YrCancerDerived_Inh_FAH16to70	1.68e-06
560078	4243026	DieselExhPM	0.00143	3.3183e-07	1.33YrCancerDerived_Inh_FAH16to70	3.3183e-07
560141	4243295	DieselExhPM	0.00384	8.9106e-07	1.33YrCancerDerived_Inh_FAH16to70	8.9106e-07
559647	4242940	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
559923	4242910	DieselExhPM	0.00085	1.9724e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9724e-07
560218	4243101	DieselExhPM	0.00105	2.4365e-07	1.33YrCancerDerived_Inh_FAH16to70	2.4365e-07
559894	4243441	DieselExhPM	0.0039	9.0498e-07	1.33YrCancerDerived_Inh_FAH16to70	9.0498e-07
559974	4243084	DieselExhPM	0.00466	1.0813e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0813e-06
559588	4243384	DieselExhPM	0.00063	1.4619e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4619e-07
559702	4243232	DieselExhPM	0.00495	1.1486e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1486e-06
559658	4243542	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
559816	4242887	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
560063	4243047	DieselExhPM	0.00226	5.2443e-07	1.33YrCancerDerived_Inh_FAH16to70	5.2443e-07
559492	4243379	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
559551	4243423	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
559712	4243048	DieselExhPM	0.00074	1.7171e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7171e-07
559592	4243367	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
559664	4242983	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559538	4243419	DieselExhPM	0.00043	9.978e-08	1.33YrCancerDerived_Inh_FAH16to70	9.978e-08
560093	4243164	DieselExhPM	0.00756	1.7543e-06	1.33YrCancerDerived_Inh_FAH16to70	1.7543e-06
559758	4243449	DieselExhPM	0.00095	2.2044e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2044e-07
559970	4242838	DieselExhPM	0.00058	1.3459e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3459e-07
560278	4243094	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559601	4242982	DieselExhPM	0.0002	4.6409e-08	1.33YrCancerDerived_Inh_FAH16to70	4.6409e-08
559486	4243398	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
559832	4243508	DieselExhPM	0.00141	3.2719e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2719e-07
560122	4243555	DieselExhPM	0.00221	5.1282e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1282e-07

559554	4243018	DieselExhPM	0.0002	4.6409e-08	1.33YrCancerDerived_Inh_FAH16to70	4.6409e-08
559917	4243043	DieselExhPM	0.00221	5.1282e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1282e-07
559700	4243107	DieselExhPM	0.00109	2.5293e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5293e-07
560065	4243075	DieselExhPM	0.00352	8.1681e-07	1.33YrCancerDerived_Inh_FAH16to70	8.1681e-07
560100	4243361	DieselExhPM	0.00465	1.079e-06	1.33YrCancerDerived_Inh_FAH16to70	1.079e-06
560166	4243422	DieselExhPM	0.00249	5.778e-07	1.33YrCancerDerived_Inh_FAH16to70	5.778e-07
559982	4243261	DieselExhPM	0.02355	5.4647e-06	1.33YrCancerDerived_Inh_FAH16to70	5.4647e-06
560115	4243430	DieselExhPM	0.00338	7.8432e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8432e-07
560158	4243039	DieselExhPM	0.00082	1.9028e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9028e-07
560302	4242902	DieselExhPM	0.00021	4.873e-08	1.33YrCancerDerived_Inh_FAH16to70	4.873e-08
560268	4243296	DieselExhPM	0.00134	3.1094e-07	1.33YrCancerDerived_Inh_FAH16to70	3.1094e-07
559588	4243431	DieselExhPM	0.00041	9.5139e-08	1.33YrCancerDerived_Inh_FAH16to70	9.5139e-08
560246	4242869	DieselExhPM	0.00023	5.3371e-08	1.33YrCancerDerived_Inh_FAH16to70	5.3371e-08
559632	4242939	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
560146	4242842	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
559866	4243112	DieselExhPM	0.00518	1.202e-06	1.33YrCancerDerived_Inh_FAH16to70	1.202e-06
559900	4243040	DieselExhPM	0.00208	4.8266e-07	1.33YrCancerDerived_Inh_FAH16to70	4.8266e-07
559613	4242914	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08
559527	4243415	DieselExhPM	0.00044	1.021e-07	1.33YrCancerDerived_Inh_FAH16to70	1.021e-07
559649	4243332	DieselExhPM	0.00129	2.9934e-07	1.33YrCancerDerived_Inh_FAH16to70	2.9934e-07
559537	4243123	DieselExhPM	0.00057	1.3227e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3227e-07
559938	4242887	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
560179	4243448	DieselExhPM	0.00217	5.0354e-07	1.33YrCancerDerived_Inh_FAH16to70	5.0354e-07
559502	4243149	DieselExhPM	0.00068	1.5779e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5779e-07
559686	4243419	DieselExhPM	0.00059	1.3691e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3691e-07
559560	4243455	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559857	4242865	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
560173	4243011	DieselExhPM	0.0006	1.3923e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3923e-07
559847	4243363	DieselExhPM	0.00678	1.5733e-06	1.33YrCancerDerived_Inh_FAH16to70	1.5733e-06
559812	4242856	DieselExhPM	0.00054	1.2531e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2531e-07
559866	4243392	DieselExhPM	0.00528	1.2252e-06	1.33YrCancerDerived_Inh_FAH16to70	1.2252e-06
559664	4242901	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559518	4243118	DieselExhPM	0.0005	1.1602e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1602e-07
559763	4242938	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
559800	4243550	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
559656	4243319	DieselExhPM	0.00157	3.6431e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6431e-07
559510	4243073	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
559543	4243064	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
559698	4243315	DieselExhPM	0.00201	4.6642e-07	1.33YrCancerDerived_Inh_FAH16to70	4.6642e-07
560235	4242946	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08

559671	4242944	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
560172	4242844	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559892	4243112	DieselExhPM	0.00564	1.3087e-06	1.33YrCancerDerived_Inh_FAH16to70	1.3087e-06
559481	4243347	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559652	4243300	DieselExhPM	0.00198	4.5945e-07	1.33YrCancerDerived_Inh_FAH16to70	4.5945e-07
559558	4242990	DieselExhPM	0.00017	3.9448e-08	1.33YrCancerDerived_Inh_FAH16to70	3.9448e-08
559924	4243073	DieselExhPM	0.00321	7.4487e-07	1.33YrCancerDerived_Inh_FAH16to70	7.4487e-07
559623	4243482	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560194	4243046	DieselExhPM	0.00073	1.6939e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6939e-07
560131	4243478	DieselExhPM	0.00268	6.2189e-07	1.33YrCancerDerived_Inh_FAH16to70	6.2189e-07
559530	4243229	DieselExhPM	0.00139	3.2255e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2255e-07
560119	4243000	DieselExhPM	0.00077	1.7868e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7868e-07
559521	4243470	DieselExhPM	0.00028	6.4973e-08	1.33YrCancerDerived_Inh_FAH16to70	6.4973e-08
559732	4243352	DieselExhPM	0.00181	4.2001e-07	1.33YrCancerDerived_Inh_FAH16to70	4.2001e-07
560082	4243240	DieselExhPM	0.00815	1.8912e-06	1.33YrCancerDerived_Inh_FAH16to70	1.8912e-06
559772	4243487	DieselExhPM	0.00083	1.926e-07	1.33YrCancerDerived_Inh_FAH16to70	1.926e-07
559895	4242877	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559789	4243120	DieselExhPM	0.00374	8.6786e-07	1.33YrCancerDerived_Inh_FAH16to70	8.6786e-07
559573	4243175	DieselExhPM	0.00121	2.8078e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8078e-07
560246	4242979	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
560068	4242853	DieselExhPM	0.00046	1.0674e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0674e-07
559785	4242851	DieselExhPM	0.00048	1.1138e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1138e-07
559488	4243426	DieselExhPM	0.00038	8.8178e-08	1.33YrCancerDerived_Inh_FAH16to70	8.8178e-08
560027	4243065	DieselExhPM	0.00417	9.6764e-07	1.33YrCancerDerived_Inh_FAH16to70	9.6764e-07
559762	4242876	DieselExhPM	0.00048	1.1138e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1138e-07
559640	4243256	DieselExhPM	0.00288	6.683e-07	1.33YrCancerDerived_Inh_FAH16to70	6.683e-07
559625	4242950	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559987	4243422	DieselExhPM	0.00642	1.4897e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4897e-06
559560	4243003	DieselExhPM	0.00018	4.1769e-08	1.33YrCancerDerived_Inh_FAH16to70	4.1769e-08
559739	4243441	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
560181	4243221	DieselExhPM	0.00256	5.9404e-07	1.33YrCancerDerived_Inh_FAH16to70	5.9404e-07
560296	4243060	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
560244	4243382	DieselExhPM	0.00151	3.5039e-07	1.33YrCancerDerived_Inh_FAH16to70	3.5039e-07
559497	4243157	DieselExhPM	0.00073	1.6939e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6939e-07
559644	4243486	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
560176	4243326	DieselExhPM	0.00268	6.2189e-07	1.33YrCancerDerived_Inh_FAH16to70	6.2189e-07
559492	4243165	DieselExhPM	0.00077	1.7868e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7868e-07
560099	4243302	DieselExhPM	0.00567	1.3157e-06	1.33YrCancerDerived_Inh_FAH16to70	1.3157e-06
560199	4242938	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
560111	4243078	DieselExhPM	0.00205	4.757e-07	1.33YrCancerDerived_Inh_FAH16to70	4.757e-07

559901	4243422	DieselExhPM	0.00486	1.1277e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1277e-06
559627	4243370	DieselExhPM	0.0008	1.8564e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8564e-07
560187	4243309	DieselExhPM	0.00249	5.778e-07	1.33YrCancerDerived_Inh_FAH16to70	5.778e-07
559620	4243380	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
560285	4243301	DieselExhPM	0.0012	2.7846e-07	1.33YrCancerDerived_Inh_FAH16to70	2.7846e-07
559885	4242812	DieselExhPM	0.00052	1.2066e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2066e-07
559903	4242820	DieselExhPM	0.00054	1.2531e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2531e-07
559918	4242825	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
559940	4242806	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559971	4242815	DieselExhPM	0.00052	1.2066e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2066e-07
559974	4242798	DieselExhPM	0.00048	1.1138e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1138e-07
560019	4242812	DieselExhPM	0.00046	1.0674e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0674e-07
560039	4242812	DieselExhPM	0.00043	9.978e-08	1.33YrCancerDerived_Inh_FAH16to70	9.978e-08
560058	4242818	DieselExhPM	0.00041	9.5139e-08	1.33YrCancerDerived_Inh_FAH16to70	9.5139e-08
560073	4242825	DieselExhPM	0.00039	9.0498e-08	1.33YrCancerDerived_Inh_FAH16to70	9.0498e-08
560103	4242826	DieselExhPM	0.00034	7.8896e-08	1.33YrCancerDerived_Inh_FAH16to70	7.8896e-08
560139	4242819	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
560303	4243044	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
560310	4243029	DieselExhPM	0.0004	9.2819e-08	1.33YrCancerDerived_Inh_FAH16to70	9.2819e-08
560319	4242999	DieselExhPM	0.00032	7.4255e-08	1.33YrCancerDerived_Inh_FAH16to70	7.4255e-08
560320	4242968	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
559936	4243481	DieselExhPM	0.00356	8.2609e-07	1.33YrCancerDerived_Inh_FAH16to70	8.2609e-07
559976	4243501	DieselExhPM	0.00353	8.1913e-07	1.33YrCancerDerived_Inh_FAH16to70	8.1913e-07
559993	4243512	DieselExhPM	0.00336	7.7968e-07	1.33YrCancerDerived_Inh_FAH16to70	7.7968e-07
560027	4243524	DieselExhPM	0.00314	7.2863e-07	1.33YrCancerDerived_Inh_FAH16to70	7.2863e-07
559940	4243461	DieselExhPM	0.00427	9.9084e-07	1.33YrCancerDerived_Inh_FAH16to70	9.9084e-07
559936	4243443	DieselExhPM	0.00492	1.1417e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1417e-06
559961	4243443	DieselExhPM	0.00537	1.2461e-06	1.33YrCancerDerived_Inh_FAH16to70	1.2461e-06
560004	4243461	DieselExhPM	0.00471	1.0929e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0929e-06
560042	4243485	DieselExhPM	0.00377	8.7482e-07	1.33YrCancerDerived_Inh_FAH16to70	8.7482e-07
560046	4243462	DieselExhPM	0.0042	9.746e-07	1.33YrCancerDerived_Inh_FAH16to70	9.746e-07
560061	4243440	DieselExhPM	0.0044	1.021e-06	1.33YrCancerDerived_Inh_FAH16to70	1.021e-06
560022	4243579	DieselExhPM	0.00233	5.4067e-07	1.33YrCancerDerived_Inh_FAH16to70	5.4067e-07
560039	4243593	DieselExhPM	0.0022	5.105e-07	1.33YrCancerDerived_Inh_FAH16to70	5.105e-07
560052	4243600	DieselExhPM	0.00212	4.9194e-07	1.33YrCancerDerived_Inh_FAH16to70	4.9194e-07
559754	4243137	DieselExhPM	0.00325	7.5415e-07	1.33YrCancerDerived_Inh_FAH16to70	7.5415e-07
560125	4243225	DieselExhPM	0.00482	1.1185e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1185e-06
560225	4243225	DieselExhPM	0.00173	4.0144e-07	1.33YrCancerDerived_Inh_FAH16to70	4.0144e-07
560275	4243225	DieselExhPM	0.00121	2.8078e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8078e-07
560325	4243225	DieselExhPM	0.0009	2.0884e-07	1.33YrCancerDerived_Inh_FAH16to70	2.0884e-07

560325	4243275	DieselExhPM	0.00094	2.1812e-07	1.33YrCancerDerived_Inh_FAH16to70	2.1812e-07
560125	4243175	DieselExhPM	0.00442	1.0256e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0256e-06
560175	4243175	DieselExhPM	0.00237	5.4995e-07	1.33YrCancerDerived_Inh_FAH16to70	5.4995e-07
560225	4243175	DieselExhPM	0.00152	3.5271e-07	1.33YrCancerDerived_Inh_FAH16to70	3.5271e-07
560275	4243175	DieselExhPM	0.00108	2.5061e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5061e-07
560325	4243175	DieselExhPM	0.00081	1.8796e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8796e-07
560325	4243125	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
560375	4243075	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
560125	4243225	DieselExhPM	0.00482	1.1185e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1185e-06
559782	4242995	DieselExhPM	0.00095	2.2044e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2044e-07
559849	4243560	DieselExhPM	0.00114	2.6453e-07	1.33YrCancerDerived_Inh_FAH16to70	2.6453e-07
559884	4243576	DieselExhPM	0.00134	3.1094e-07	1.33YrCancerDerived_Inh_FAH16to70	3.1094e-07
559927	4243592	DieselExhPM	0.00161	3.736e-07	1.33YrCancerDerived_Inh_FAH16to70	3.736e-07
559959	4243608	DieselExhPM	0.00171	3.968e-07	1.33YrCancerDerived_Inh_FAH16to70	3.968e-07
559979	4243585	DieselExhPM	0.00209	4.8498e-07	1.33YrCancerDerived_Inh_FAH16to70	4.8498e-07
559939	4243563	DieselExhPM	0.00204	4.7338e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7338e-07
559894	4243553	DieselExhPM	0.00168	3.8984e-07	1.33YrCancerDerived_Inh_FAH16to70	3.8984e-07
559864	4243537	DieselExhPM	0.0015	3.4807e-07	1.33YrCancerDerived_Inh_FAH16to70	3.4807e-07
560029	4243480	DieselExhPM	0.00401	9.3051e-07	1.33YrCancerDerived_Inh_FAH16to70	9.3051e-07
559786	4243494	DieselExhPM	0.00095	2.2044e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2044e-07
559571	4243381	DieselExhPM	0.00063	1.4619e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4619e-07
559566	4242976	DieselExhPM	0.00016	3.7128e-08	1.33YrCancerDerived_Inh_FAH16to70	3.7128e-08
559511	4243435	DieselExhPM	0.00036	8.3537e-08	1.33YrCancerDerived_Inh_FAH16to70	8.3537e-08
560032	4242845	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559795	4243066	DieselExhPM	0.00193	4.4785e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4785e-07
559722	4243434	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
559659	4242922	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559877	4242874	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
559575	4243020	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559743	4243333	DieselExhPM	0.00292	6.7758e-07	1.33YrCancerDerived_Inh_FAH16to70	6.7758e-07
559679	4242837	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
559869	4242899	DieselExhPM	0.00075	1.7404e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7404e-07
560007	4243008	DieselExhPM	0.00191	4.4321e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4321e-07
560067	4243502	DieselExhPM	0.00324	7.5183e-07	1.33YrCancerDerived_Inh_FAH16to70	7.5183e-07
559837	4243383	DieselExhPM	0.00497	1.1533e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1533e-06
560083	4243005	DieselExhPM	0.00109	2.5293e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5293e-07
560022	4242979	DieselExhPM	0.00135	3.1326e-07	1.33YrCancerDerived_Inh_FAH16to70	3.1326e-07
560055	4242907	DieselExhPM	0.00065	1.5083e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5083e-07
559617	4243316	DieselExhPM	0.0014	3.2487e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2487e-07
560009	4243389	DieselExhPM	0.00766	1.7775e-06	1.33YrCancerDerived_Inh_FAH16to70	1.7775e-06

560034	4243262	DieselExhPM	0.01323	3.07e-06	1.33YrCancerDerived_Inh_FAH16to70	3.07e-06
560206	4243383	DieselExhPM	0.00198	4.5945e-07	1.33YrCancerDerived_Inh_FAH16to70	4.5945e-07
559831	4242864	DieselExhPM	0.00059	1.3691e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3691e-07
560156	4242960	DieselExhPM	0.00048	1.1138e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1138e-07
560002	4243314	DieselExhPM	0.01389	3.2231e-06	1.33YrCancerDerived_Inh_FAH16to70	3.2231e-06
559504	4243463	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
560143	4243459	DieselExhPM	0.00264	6.126e-07	1.33YrCancerDerived_Inh_FAH16to70	6.126e-07
559680	4242898	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560230	4243054	DieselExhPM	0.00065	1.5083e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5083e-07
560120	4243497	DieselExhPM	0.00268	6.2189e-07	1.33YrCancerDerived_Inh_FAH16to70	6.2189e-07
559805	4243413	DieselExhPM	0.00257	5.9636e-07	1.33YrCancerDerived_Inh_FAH16to70	5.9636e-07
560112	4243546	DieselExhPM	0.00235	5.4531e-07	1.33YrCancerDerived_Inh_FAH16to70	5.4531e-07
559862	4243464	DieselExhPM	0.0026	6.0332e-07	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-07
560236	4243399	DieselExhPM	0.00158	3.6663e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6663e-07
559643	4243093	DieselExhPM	0.00059	1.3691e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3691e-07
559745	4242872	DieselExhPM	0.00043	9.978e-08	1.33YrCancerDerived_Inh_FAH16to70	9.978e-08
560208	4242849	DieselExhPM	0.00024	5.5691e-08	1.33YrCancerDerived_Inh_FAH16to70	5.5691e-08
560110	4243344	DieselExhPM	0.0045	1.0442e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-06
559567	4243075	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
559733	4242944	DieselExhPM	0.00052	1.2066e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2066e-07
560022	4243196	DieselExhPM	0.01945	4.5133e-06	1.33YrCancerDerived_Inh_FAH16to70	4.5133e-06
560237	4243105	DieselExhPM	0.00096	2.2277e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2277e-07
559582	4243444	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559760	4243309	DieselExhPM	0.00652	1.5129e-06	1.33YrCancerDerived_Inh_FAH16to70	1.5129e-06
559860	4243332	DieselExhPM	0.01052	2.4411e-06	1.33YrCancerDerived_Inh_FAH16to70	2.4411e-06
559538	4243477	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559527	4243344	DieselExhPM	0.00081	1.8796e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8796e-07
559565	4243357	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
560060	4242993	DieselExhPM	0.00121	2.8078e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8078e-07
559704	4243427	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
559722	4243108	DieselExhPM	0.00142	3.2951e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2951e-07
559585	4243295	DieselExhPM	0.00153	3.5503e-07	1.33YrCancerDerived_Inh_FAH16to70	3.5503e-07
559941	4242914	DieselExhPM	0.00088	2.042e-07	1.33YrCancerDerived_Inh_FAH16to70	2.042e-07
559554	4243238	DieselExhPM	0.00161	3.736e-07	1.33YrCancerDerived_Inh_FAH16to70	3.736e-07
559618	4242915	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08
559988	4243059	DieselExhPM	0.00344	7.9824e-07	1.33YrCancerDerived_Inh_FAH16to70	7.9824e-07
559666	4243196	DieselExhPM	0.00279	6.4741e-07	1.33YrCancerDerived_Inh_FAH16to70	6.4741e-07
559984	4242997	DieselExhPM	0.00167	3.8752e-07	1.33YrCancerDerived_Inh_FAH16to70	3.8752e-07
559742	4243384	DieselExhPM	0.0014	3.2487e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2487e-07
559798	4242883	DieselExhPM	0.00057	1.3227e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3227e-07

560104	4242860	DieselExhPM	0.0004	9.2819e-08	1.33YrCancerDerived_Inh_FAH16to70	9.2819e-08
559607	4243464	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559712	4243384	DieselExhPM	0.00097	2.2509e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2509e-07
560176	4243043	DieselExhPM	0.00077	1.7868e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7868e-07
560244	4243026	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
559851	4243500	DieselExhPM	0.00179	4.1536e-07	1.33YrCancerDerived_Inh_FAH16to70	4.1536e-07
559733	4243055	DieselExhPM	0.00098	2.2741e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2741e-07
560227	4243023	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559834	4242934	DieselExhPM	0.00083	1.926e-07	1.33YrCancerDerived_Inh_FAH16to70	1.926e-07
559630	4243424	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
559548	4243401	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559695	4243504	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
559601	4243411	DieselExhPM	0.0005	1.1602e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1602e-07
560139	4242868	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
559851	4242895	DieselExhPM	0.00071	1.6475e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6475e-07
560193	4242967	DieselExhPM	0.00041	9.5139e-08	1.33YrCancerDerived_Inh_FAH16to70	9.5139e-08
560151	4243222	DieselExhPM	0.00352	8.1681e-07	1.33YrCancerDerived_Inh_FAH16to70	8.1681e-07
559488	4243456	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560027	4243013	DieselExhPM	0.00191	4.4321e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4321e-07
560249	4243058	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
559687	4243326	DieselExhPM	0.00163	3.7824e-07	1.33YrCancerDerived_Inh_FAH16to70	3.7824e-07
560004	4242976	DieselExhPM	0.00137	3.179e-07	1.33YrCancerDerived_Inh_FAH16to70	3.179e-07
559731	4243528	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
560196	4243350	DieselExhPM	0.00221	5.1282e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1282e-07
559614	4243330	DieselExhPM	0.00119	2.7614e-07	1.33YrCancerDerived_Inh_FAH16to70	2.7614e-07
559514	4243074	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560042	4243032	DieselExhPM	0.00225	5.2211e-07	1.33YrCancerDerived_Inh_FAH16to70	5.2211e-07
559501	4243433	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559620	4243440	DieselExhPM	0.00041	9.5139e-08	1.33YrCancerDerived_Inh_FAH16to70	9.5139e-08
560010	4243300	DieselExhPM	0.01395	3.2371e-06	1.33YrCancerDerived_Inh_FAH16to70	3.2371e-06
559587	4243080	DieselExhPM	0.0004	9.2819e-08	1.33YrCancerDerived_Inh_FAH16to70	9.2819e-08
560211	4242971	DieselExhPM	0.00039	9.0498e-08	1.33YrCancerDerived_Inh_FAH16to70	9.0498e-08
559763	4242840	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
559511	4243134	DieselExhPM	0.0006	1.3923e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3923e-07
560245	4243370	DieselExhPM	0.00152	3.5271e-07	1.33YrCancerDerived_Inh_FAH16to70	3.5271e-07
559578	4242978	DieselExhPM	0.00018	4.1769e-08	1.33YrCancerDerived_Inh_FAH16to70	4.1769e-08
560158	4242872	DieselExhPM	0.00032	7.4255e-08	1.33YrCancerDerived_Inh_FAH16to70	7.4255e-08
559680	4242903	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
559970	4243055	DieselExhPM	0.00289	6.7062e-07	1.33YrCancerDerived_Inh_FAH16to70	6.7062e-07
560030	4243183	DieselExhPM	0.01859	4.3138e-06	1.33YrCancerDerived_Inh_FAH16to70	4.3138e-06

559514	4243409	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
559535	4243396	DieselExhPM	0.00052	1.2066e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2066e-07
560048	4243297	DieselExhPM	0.00954	2.2137e-06	1.33YrCancerDerived_Inh_FAH16to70	2.2137e-06
560015	4242841	DieselExhPM	0.00053	1.2299e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2299e-07
559814	4243062	DieselExhPM	0.00206	4.7802e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7802e-07
560020	4242900	DieselExhPM	0.00073	1.6939e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6939e-07
559881	4243433	DieselExhPM	0.00386	8.957e-07	1.33YrCancerDerived_Inh_FAH16to70	8.957e-07
560147	4243085	DieselExhPM	0.00157	3.6431e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6431e-07
560200	4243097	DieselExhPM	0.00115	2.6685e-07	1.33YrCancerDerived_Inh_FAH16to70	2.6685e-07
559787	4243303	DieselExhPM	0.01163	2.6987e-06	1.33YrCancerDerived_Inh_FAH16to70	2.6987e-06
559640	4243408	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560209	4243019	DieselExhPM	0.00053	1.2299e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2299e-07
560212	4243050	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
559655	4243269	DieselExhPM	0.00295	6.8454e-07	1.33YrCancerDerived_Inh_FAH16to70	6.8454e-07
560155	4243007	DieselExhPM	0.00064	1.4851e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4851e-07
559974	4243274	DieselExhPM	0.02396	5.5599e-06	1.33YrCancerDerived_Inh_FAH16to70	5.5599e-06
559966	4243286	DieselExhPM	0.02409	5.59e-06	1.33YrCancerDerived_Inh_FAH16to70	5.59e-06
559859	4243487	DieselExhPM	0.0021	4.873e-07	1.33YrCancerDerived_Inh_FAH16to70	4.873e-07
560050	4242849	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
559670	4243445	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
559781	4243315	DieselExhPM	0.00847	1.9654e-06	1.33YrCancerDerived_Inh_FAH16to70	1.9654e-06
560127	4242923	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
559669	4243159	DieselExhPM	0.00181	4.2001e-07	1.33YrCancerDerived_Inh_FAH16to70	4.2001e-07
560183	4243093	DieselExhPM	0.00127	2.947e-07	1.33YrCancerDerived_Inh_FAH16to70	2.947e-07
560130	4243312	DieselExhPM	0.0041	9.5139e-07	1.33YrCancerDerived_Inh_FAH16to70	9.5139e-07
559667	4242971	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559545	4243369	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
559944	4242999	DieselExhPM	0.00156	3.6199e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6199e-07
560073	4242911	DieselExhPM	0.0006	1.3923e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3923e-07
560154	4243440	DieselExhPM	0.00259	6.01e-07	1.33YrCancerDerived_Inh_FAH16to70	6.01e-07
560264	4243434	DieselExhPM	0.00128	2.9702e-07	1.33YrCancerDerived_Inh_FAH16to70	2.9702e-07
559874	4243472	DieselExhPM	0.00265	6.1493e-07	1.33YrCancerDerived_Inh_FAH16to70	6.1493e-07
560127	4243411	DieselExhPM	0.00332	7.704e-07	1.33YrCancerDerived_Inh_FAH16to70	7.704e-07
560192	4243477	DieselExhPM	0.00191	4.4321e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4321e-07
560264	4243031	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
559576	4243459	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559885	4243337	DieselExhPM	0.01165	2.7034e-06	1.33YrCancerDerived_Inh_FAH16to70	2.7034e-06
559547	4243449	DieselExhPM	0.00034	7.8896e-08	1.33YrCancerDerived_Inh_FAH16to70	7.8896e-08
560233	4243285	DieselExhPM	0.00172	3.9912e-07	1.33YrCancerDerived_Inh_FAH16to70	3.9912e-07
559681	4243221	DieselExhPM	0.00389	9.0266e-07	1.33YrCancerDerived_Inh_FAH16to70	9.0266e-07

560060	4243278	DieselExhPM	0.00919	2.1325e-06	1.33YrCancerDerived_Inh_FAH16to70	2.1325e-06
559759	4243481	DieselExhPM	0.00075	1.7404e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7404e-07
559723	4243468	DieselExhPM	0.00054	1.2531e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2531e-07
559804	4242928	DieselExhPM	0.00072	1.6707e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6707e-07
559669	4243362	DieselExhPM	0.00097	2.2509e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2509e-07
559838	4243423	DieselExhPM	0.00319	7.4023e-07	1.33YrCancerDerived_Inh_FAH16to70	7.4023e-07
559481	4243378	DieselExhPM	0.00055	1.2763e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2763e-07
560086	4243333	DieselExhPM	0.00574	1.332e-06	1.33YrCancerDerived_Inh_FAH16to70	1.332e-06
560123	4243031	DieselExhPM	0.00097	2.2509e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2509e-07
559909	4242991	DieselExhPM	0.0014	3.2487e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2487e-07
559635	4243296	DieselExhPM	0.00193	4.4785e-07	1.33YrCancerDerived_Inh_FAH16to70	4.4785e-07
560083	4243183	DieselExhPM	0.00914	2.1209e-06	1.33YrCancerDerived_Inh_FAH16to70	2.1209e-06
560026	4243274	DieselExhPM	0.01356	3.1466e-06	1.33YrCancerDerived_Inh_FAH16to70	3.1466e-06
559764	4243115	DieselExhPM	0.00267	6.1957e-07	1.33YrCancerDerived_Inh_FAH16to70	6.1957e-07
560229	4242975	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559659	4242942	DieselExhPM	0.00028	6.4973e-08	1.33YrCancerDerived_Inh_FAH16to70	6.4973e-08
559653	4243155	DieselExhPM	0.0015	3.4807e-07	1.33YrCancerDerived_Inh_FAH16to70	3.4807e-07
560180	4242934	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559919	4243112	DieselExhPM	0.00611	1.4178e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4178e-06
559562	4243407	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
560066	4243258	DieselExhPM	0.00927	2.1511e-06	1.33YrCancerDerived_Inh_FAH16to70	2.1511e-06
560104	4243028	DieselExhPM	0.00111	2.5757e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5757e-07
559715	4243508	DieselExhPM	0.0004	9.2819e-08	1.33YrCancerDerived_Inh_FAH16to70	9.2819e-08
560287	4243076	DieselExhPM	0.0006	1.3923e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3923e-07
559594	4242939	DieselExhPM	0.00017	3.9448e-08	1.33YrCancerDerived_Inh_FAH16to70	3.9448e-08
560137	4243004	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
560017	4243374	DieselExhPM	0.00807	1.8726e-06	1.33YrCancerDerived_Inh_FAH16to70	1.8726e-06
559852	4243427	DieselExhPM	0.0034	7.8896e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8896e-07
560211	4242883	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
560064	4243350	DieselExhPM	0.00645	1.4967e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4967e-06
560175	4242876	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
559572	4243408	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
560290	4242866	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08
560191	4243015	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560042	4243249	DieselExhPM	0.01278	2.9656e-06	1.33YrCancerDerived_Inh_FAH16to70	2.9656e-06
560172	4243502	DieselExhPM	0.00204	4.7338e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7338e-07
560036	4243316	DieselExhPM	0.00973	2.2578e-06	1.33YrCancerDerived_Inh_FAH16to70	2.2578e-06
559534	4243443	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
559611	4243173	DieselExhPM	0.00146	3.3879e-07	1.33YrCancerDerived_Inh_FAH16to70	3.3879e-07
559590	4242980	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08

559483	4243212	DieselExhPM	0.00104	2.4133e-07	1.33YrCancerDerived_Inh_FAH16to70	2.4133e-07
560019	4243286	DieselExhPM	0.0138	3.2023e-06	1.33YrCancerDerived_Inh_FAH16to70	3.2023e-06
559668	4243039	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
560094	4243465	DieselExhPM	0.00338	7.8432e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8432e-07
560165	4243089	DieselExhPM	0.0014	3.2487e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2487e-07
560069	4243193	DieselExhPM	0.01107	2.5688e-06	1.33YrCancerDerived_Inh_FAH16to70	2.5688e-06
560264	4243362	DieselExhPM	0.00134	3.1094e-07	1.33YrCancerDerived_Inh_FAH16to70	3.1094e-07
560264	4242983	DieselExhPM	0.00034	7.8896e-08	1.33YrCancerDerived_Inh_FAH16to70	7.8896e-08
560271	4243330	DieselExhPM	0.00131	3.0398e-07	1.33YrCancerDerived_Inh_FAH16to70	3.0398e-07
560129	4243080	DieselExhPM	0.00176	4.084e-07	1.33YrCancerDerived_Inh_FAH16to70	4.084e-07
560165	4243526	DieselExhPM	0.002	4.6409e-07	1.33YrCancerDerived_Inh_FAH16to70	4.6409e-07
560004	4243066	DieselExhPM	0.00423	9.8156e-07	1.33YrCancerDerived_Inh_FAH16to70	9.8156e-07
559679	4243501	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559530	4243123	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560146	4243374	DieselExhPM	0.00315	7.3095e-07	1.33YrCancerDerived_Inh_FAH16to70	7.3095e-07
559520	4243076	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
559595	4243423	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
559995	4242925	DieselExhPM	0.00093	2.158e-07	1.33YrCancerDerived_Inh_FAH16to70	2.158e-07
560074	4243557	DieselExhPM	0.0025	5.8012e-07	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-07
559718	4243283	DieselExhPM	0.00395	9.1659e-07	1.33YrCancerDerived_Inh_FAH16to70	9.1659e-07
559653	4242995	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
559999	4243405	DieselExhPM	0.00709	1.6452e-06	1.33YrCancerDerived_Inh_FAH16to70	1.6452e-06
560108	4243515	DieselExhPM	0.00266	6.1725e-07	1.33YrCancerDerived_Inh_FAH16to70	6.1725e-07
559993	4243328	DieselExhPM	0.01362	3.1605e-06	1.33YrCancerDerived_Inh_FAH16to70	3.1605e-06
559935	4243047	DieselExhPM	0.00236	5.4763e-07	1.33YrCancerDerived_Inh_FAH16to70	5.4763e-07
559811	4243484	DieselExhPM	0.00138	3.2023e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2023e-07
559846	4243520	DieselExhPM	0.00146	3.3879e-07	1.33YrCancerDerived_Inh_FAH16to70	3.3879e-07
559622	4243303	DieselExhPM	0.00166	3.852e-07	1.33YrCancerDerived_Inh_FAH16to70	3.852e-07
560065	4243209	DieselExhPM	0.01132	2.6268e-06	1.33YrCancerDerived_Inh_FAH16to70	2.6268e-06
560139	4242956	DieselExhPM	0.00052	1.2066e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2066e-07
559560	4243141	DieselExhPM	0.00078	1.81e-07	1.33YrCancerDerived_Inh_FAH16to70	1.81e-07
559706	4243460	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
559789	4243546	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
559732	4243210	DieselExhPM	0.00648	1.5037e-06	1.33YrCancerDerived_Inh_FAH16to70	1.5037e-06
559860	4243273	DieselExhPM	0.02145	4.9774e-06	1.33YrCancerDerived_Inh_FAH16to70	4.9774e-06
559847	4242968	DieselExhPM	0.00105	2.4365e-07	1.33YrCancerDerived_Inh_FAH16to70	2.4365e-07
559874	4242873	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
560040	4242983	DieselExhPM	0.00128	2.9702e-07	1.33YrCancerDerived_Inh_FAH16to70	2.9702e-07
559506	4243222	DieselExhPM	0.00121	2.8078e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8078e-07
559666	4243304	DieselExhPM	0.00199	4.6177e-07	1.33YrCancerDerived_Inh_FAH16to70	4.6177e-07

559761	4243391	DieselExhPM	0.00173	4.0144e-07	1.33YrCancerDerived_Inh_FAH16to70	4.0144e-07
559950	4243314	DieselExhPM	0.02266	5.2582e-06	1.33YrCancerDerived_Inh_FAH16to70	5.2582e-06
559844	4243067	DieselExhPM	0.00252	5.8476e-07	1.33YrCancerDerived_Inh_FAH16to70	5.8476e-07
559606	4243085	DieselExhPM	0.00045	1.0442e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0442e-07
560037	4242904	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559797	4243425	DieselExhPM	0.00204	4.7338e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7338e-07
559694	4243047	DieselExhPM	0.00061	1.4155e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4155e-07
559494	4243351	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
560091	4242915	DieselExhPM	0.00055	1.2763e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2763e-07
559780	4242879	DieselExhPM	0.00052	1.2066e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2066e-07
560263	4243103	DieselExhPM	0.00081	1.8796e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8796e-07
560127	4243248	DieselExhPM	0.00471	1.0929e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0929e-06
559603	4243018	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
559945	4242884	DieselExhPM	0.00075	1.7404e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7404e-07
559881	4243396	DieselExhPM	0.00549	1.2739e-06	1.33YrCancerDerived_Inh_FAH16to70	1.2739e-06
560103	4242948	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
559926	4242995	DieselExhPM	0.00147	3.4111e-07	1.33YrCancerDerived_Inh_FAH16to70	3.4111e-07
559879	4243067	DieselExhPM	0.00279	6.4741e-07	1.33YrCancerDerived_Inh_FAH16to70	6.4741e-07
560141	4243035	DieselExhPM	0.00089	2.0652e-07	1.33YrCancerDerived_Inh_FAH16to70	2.0652e-07
559575	4243359	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
559662	4243098	DieselExhPM	0.00071	1.6475e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6475e-07
560121	4242864	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559641	4242992	DieselExhPM	0.00028	6.4973e-08	1.33YrCancerDerived_Inh_FAH16to70	6.4973e-08
559905	4242906	DieselExhPM	0.00082	1.9028e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9028e-07
559602	4243186	DieselExhPM	0.00161	3.736e-07	1.33YrCancerDerived_Inh_FAH16to70	3.736e-07
559558	4243376	DieselExhPM	0.00065	1.5083e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5083e-07
559540	4243070	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
559595	4243157	DieselExhPM	0.0011	2.5525e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5525e-07
559607	4243400	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560201	4243286	DieselExhPM	0.00223	5.1747e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1747e-07
559610	4242913	DieselExhPM	0.00018	4.1769e-08	1.33YrCancerDerived_Inh_FAH16to70	4.1769e-08
559613	4243392	DieselExhPM	0.00061	1.4155e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4155e-07
559967	4243412	DieselExhPM	0.00713	1.6545e-06	1.33YrCancerDerived_Inh_FAH16to70	1.6545e-06
559489	4243172	DieselExhPM	0.00081	1.8796e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8796e-07
560094	4243083	DieselExhPM	0.00277	6.4277e-07	1.33YrCancerDerived_Inh_FAH16to70	6.4277e-07
559821	4243473	DieselExhPM	0.00168	3.8984e-07	1.33YrCancerDerived_Inh_FAH16to70	3.8984e-07
559572	4243491	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560213	4243444	DieselExhPM	0.00177	4.1072e-07	1.33YrCancerDerived_Inh_FAH16to70	4.1072e-07
560050	4243236	DieselExhPM	0.01229	2.8519e-06	1.33YrCancerDerived_Inh_FAH16to70	2.8519e-06
560049	4242937	DieselExhPM	0.00082	1.9028e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9028e-07

559653	4242898	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
560090	4243542	DieselExhPM	0.00256	5.9404e-07	1.33YrCancerDerived_Inh_FAH16to70	5.9404e-07
559522	4243439	DieselExhPM	0.00036	8.3537e-08	1.33YrCancerDerived_Inh_FAH16to70	8.3537e-08
559589	4243498	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
559506	4243141	DieselExhPM	0.00064	1.4851e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4851e-07
559477	4243424	DieselExhPM	0.00038	8.8178e-08	1.33YrCancerDerived_Inh_FAH16to70	8.8178e-08
559631	4243209	DieselExhPM	0.00236	5.4763e-07	1.33YrCancerDerived_Inh_FAH16to70	5.4763e-07
560091	4242858	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
559640	4243195	DieselExhPM	0.00223	5.1747e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1747e-07
559621	4242961	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559961	4243374	DieselExhPM	0.01083	2.5131e-06	1.33YrCancerDerived_Inh_FAH16to70	2.5131e-06
559841	4243113	DieselExhPM	0.00472	1.0953e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0953e-06
560121	4242952	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
560082	4243478	DieselExhPM	0.00339	7.8664e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8664e-07
559833	4242891	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
559550	4243027	DieselExhPM	0.00021	4.873e-08	1.33YrCancerDerived_Inh_FAH16to70	4.873e-08
559800	4243501	DieselExhPM	0.00106	2.4597e-07	1.33YrCancerDerived_Inh_FAH16to70	2.4597e-07
559911	4243362	DieselExhPM	0.01047	2.4295e-06	1.33YrCancerDerived_Inh_FAH16to70	2.4295e-06
559899	4243069	DieselExhPM	0.00297	6.8918e-07	1.33YrCancerDerived_Inh_FAH16to70	6.8918e-07
559789	4242850	DieselExhPM	0.00048	1.1138e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1138e-07
560101	4242998	DieselExhPM	0.00088	2.042e-07	1.33YrCancerDerived_Inh_FAH16to70	2.042e-07
560014	4243209	DieselExhPM	0.02032	4.7152e-06	1.33YrCancerDerived_Inh_FAH16to70	4.7152e-06
559686	4243164	DieselExhPM	0.00227	5.2675e-07	1.33YrCancerDerived_Inh_FAH16to70	5.2675e-07
559971	4243360	DieselExhPM	0.01212	2.8124e-06	1.33YrCancerDerived_Inh_FAH16to70	2.8124e-06
559879	4242870	DieselExhPM	0.00066	1.5315e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5315e-07
559915	4242958	DieselExhPM	0.00113	2.6221e-07	1.33YrCancerDerived_Inh_FAH16to70	2.6221e-07
560109	4242919	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559742	4243476	DieselExhPM	0.00063	1.4619e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4619e-07
559608	4243346	DieselExhPM	0.00098	2.2741e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2741e-07
559555	4243484	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560228	4242888	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560120	4243328	DieselExhPM	0.00432	1.0024e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0024e-06
559708	4243300	DieselExhPM	0.00272	6.3117e-07	1.33YrCancerDerived_Inh_FAH16to70	6.3117e-07
559624	4243089	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
560200	4243266	DieselExhPM	0.00225	5.2211e-07	1.33YrCancerDerived_Inh_FAH16to70	5.2211e-07
559679	4243346	DieselExhPM	0.00122	2.831e-07	1.33YrCancerDerived_Inh_FAH16to70	2.831e-07
560190	4242845	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560056	4243523	DieselExhPM	0.00302	7.0078e-07	1.33YrCancerDerived_Inh_FAH16to70	7.0078e-07
559606	4243502	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
560175	4242964	DieselExhPM	0.00044	1.021e-07	1.33YrCancerDerived_Inh_FAH16to70	1.021e-07

560147	4243517	DieselExhPM	0.00222	5.1514e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1514e-07
560099	4243152	DieselExhPM	0.00642	1.4897e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4897e-06
560253	4243459	DieselExhPM	0.00135	3.1326e-07	1.33YrCancerDerived_Inh_FAH16to70	3.1326e-07
560038	4243554	DieselExhPM	0.00266	6.1725e-07	1.33YrCancerDerived_Inh_FAH16to70	6.1725e-07
559616	4243156	DieselExhPM	0.00121	2.8078e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8078e-07
559755	4243059	DieselExhPM	0.00127	2.947e-07	1.33YrCancerDerived_Inh_FAH16to70	2.947e-07
559679	4243270	DieselExhPM	0.00352	8.1681e-07	1.33YrCancerDerived_Inh_FAH16to70	8.1681e-07
559766	4242842	DieselExhPM	0.00043	9.978e-08	1.33YrCancerDerived_Inh_FAH16to70	9.978e-08
560045	4243426	DieselExhPM	0.0051	1.1834e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-06
559647	4243034	DieselExhPM	0.00037	8.5857e-08	1.33YrCancerDerived_Inh_FAH16to70	8.5857e-08
559563	4243426	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
559775	4243062	DieselExhPM	0.00157	3.6431e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6431e-07
559807	4242859	DieselExhPM	0.00053	1.2299e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2299e-07
560286	4243333	DieselExhPM	0.00119	2.7614e-07	1.33YrCancerDerived_Inh_FAH16to70	2.7614e-07
560284	4243450	DieselExhPM	0.00113	2.6221e-07	1.33YrCancerDerived_Inh_FAH16to70	2.6221e-07
560130	4243515	DieselExhPM	0.00242	5.6155e-07	1.33YrCancerDerived_Inh_FAH16to70	5.6155e-07
560146	4243254	DieselExhPM	0.00379	8.7946e-07	1.33YrCancerDerived_Inh_FAH16to70	8.7946e-07
559980	4243015	DieselExhPM	0.00197	4.5713e-07	1.33YrCancerDerived_Inh_FAH16to70	4.5713e-07
559649	4242921	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
560251	4243289	DieselExhPM	0.0015	3.4807e-07	1.33YrCancerDerived_Inh_FAH16to70	3.4807e-07
560289	4242957	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559932	4242962	DieselExhPM	0.00118	2.7382e-07	1.33YrCancerDerived_Inh_FAH16to70	2.7382e-07
560156	4243358	DieselExhPM	0.003	6.9614e-07	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-07
560247	4242892	DieselExhPM	0.00024	5.5691e-08	1.33YrCancerDerived_Inh_FAH16to70	5.5691e-08
559775	4243540	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
559913	4243406	DieselExhPM	0.00623	1.4457e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4457e-06
559850	4242868	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
560144	4242926	DieselExhPM	0.00043	9.978e-08	1.33YrCancerDerived_Inh_FAH16to70	9.978e-08
559513	4243341	DieselExhPM	0.0008	1.8564e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8564e-07
559502	4243335	DieselExhPM	0.00081	1.8796e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8796e-07
560252	4243332	DieselExhPM	0.00148	3.4343e-07	1.33YrCancerDerived_Inh_FAH16to70	3.4343e-07
559851	4243387	DieselExhPM	0.00513	1.1904e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1904e-06
559523	4243361	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
560283	4242898	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559813	4243321	DieselExhPM	0.01125	2.6105e-06	1.33YrCancerDerived_Inh_FAH16to70	2.6105e-06
559599	4243265	DieselExhPM	0.00204	4.7338e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7338e-07
559960	4242918	DieselExhPM	0.00091	2.1116e-07	1.33YrCancerDerived_Inh_FAH16to70	2.1116e-07
560108	4243134	DieselExhPM	0.00477	1.1069e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1069e-06
559634	4243149	DieselExhPM	0.00122	2.831e-07	1.33YrCancerDerived_Inh_FAH16to70	2.831e-07
560104	4243447	DieselExhPM	0.0034	7.8896e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8896e-07

560252	4242949	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560086	4243320	DieselExhPM	0.00601	1.3946e-06	1.33YrCancerDerived_Inh_FAH16to70	1.3946e-06
560177	4243489	DieselExhPM	0.00204	4.7338e-07	1.33YrCancerDerived_Inh_FAH16to70	4.7338e-07
559594	4243201	DieselExhPM	0.00173	4.0144e-07	1.33YrCancerDerived_Inh_FAH16to70	4.0144e-07
559997	4243327	DieselExhPM	0.01317	3.0561e-06	1.33YrCancerDerived_Inh_FAH16to70	3.0561e-06
559901	4242875	DieselExhPM	0.00069	1.6011e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6011e-07
559998	4243235	DieselExhPM	0.02222	5.1561e-06	1.33YrCancerDerived_Inh_FAH16to70	5.1561e-06
559958	4243299	DieselExhPM	0.0238	5.5227e-06	1.33YrCancerDerived_Inh_FAH16to70	5.5227e-06
559861	4243065	DieselExhPM	0.0026	6.0332e-07	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-07
560042	4243015	DieselExhPM	0.0018	4.1769e-07	1.33YrCancerDerived_Inh_FAH16to70	4.1769e-07
560166	4243260	DieselExhPM	0.00307	7.1239e-07	1.33YrCancerDerived_Inh_FAH16to70	7.1239e-07
559546	4242997	DieselExhPM	0.00017	3.9448e-08	1.33YrCancerDerived_Inh_FAH16to70	3.9448e-08
559748	4243531	DieselExhPM	0.00049	1.137e-07	1.33YrCancerDerived_Inh_FAH16to70	1.137e-07
559680	4242925	DieselExhPM	0.00032	7.4255e-08	1.33YrCancerDerived_Inh_FAH16to70	7.4255e-08
559659	4243377	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
560067	4242941	DieselExhPM	0.00075	1.7404e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7404e-07
559624	4242916	DieselExhPM	0.0002	4.6409e-08	1.33YrCancerDerived_Inh_FAH16to70	4.6409e-08
560162	4242930	DieselExhPM	0.0004	9.2819e-08	1.33YrCancerDerived_Inh_FAH16to70	9.2819e-08
559952	4243388	DieselExhPM	0.00917	2.1279e-06	1.33YrCancerDerived_Inh_FAH16to70	2.1279e-06
559788	4243464	DieselExhPM	0.00124	2.8774e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8774e-07
559887	4242902	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
559986	4242972	DieselExhPM	0.00134	3.1094e-07	1.33YrCancerDerived_Inh_FAH16to70	3.1094e-07
560217	4242942	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559611	4242985	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559923	4242880	DieselExhPM	0.00072	1.6707e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6707e-07
559689	4243453	DieselExhPM	0.00046	1.0674e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0674e-07
560193	4242880	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
559626	4243030	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
560001	4242896	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
559629	4242918	DieselExhPM	0.00021	4.873e-08	1.33YrCancerDerived_Inh_FAH16to70	4.873e-08
559509	4243356	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559816	4243120	DieselExhPM	0.00462	1.0721e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0721e-06
559768	4243350	DieselExhPM	0.00355	8.2377e-07	1.33YrCancerDerived_Inh_FAH16to70	8.2377e-07
559729	4242966	DieselExhPM	0.00055	1.2763e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2763e-07
560282	4242987	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559724	4243553	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
559667	4243527	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559763	4243535	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
559670	4242924	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
559775	4243456	DieselExhPM	0.00112	2.5989e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5989e-07

559632	4243356	DieselExhPM	0.00093	2.158e-07	1.33YrCancerDerived_Inh_FAH16to70	2.158e-07
560250	4242850	DieselExhPM	0.00021	4.873e-08	1.33YrCancerDerived_Inh_FAH16to70	4.873e-08
559740	4243109	DieselExhPM	0.00181	4.2001e-07	1.33YrCancerDerived_Inh_FAH16to70	4.2001e-07
560006	4243222	DieselExhPM	0.02135	4.9542e-06	1.33YrCancerDerived_Inh_FAH16to70	4.9542e-06
559834	4242861	DieselExhPM	0.00058	1.3459e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3459e-07
559833	4243327	DieselExhPM	0.01134	2.6314e-06	1.33YrCancerDerived_Inh_FAH16to70	2.6314e-06
560270	4242953	DieselExhPM	0.00028	6.4973e-08	1.33YrCancerDerived_Inh_FAH16to70	6.4973e-08
559950	4242965	DieselExhPM	0.00124	2.8774e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8774e-07
560166	4243342	DieselExhPM	0.00285	6.6133e-07	1.33YrCancerDerived_Inh_FAH16to70	6.6133e-07
559966	4243109	DieselExhPM	0.00661	1.5338e-06	1.33YrCancerDerived_Inh_FAH16to70	1.5338e-06
560014	4242929	DieselExhPM	0.00091	2.1116e-07	1.33YrCancerDerived_Inh_FAH16to70	2.1116e-07
559653	4243215	DieselExhPM	0.00292	6.7758e-07	1.33YrCancerDerived_Inh_FAH16to70	6.7758e-07
559683	4243100	DieselExhPM	0.00086	1.9956e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9956e-07
559632	4242989	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
559821	4243382	DieselExhPM	0.00445	1.0326e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0326e-06
559699	4243541	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560226	4242853	DieselExhPM	0.00023	5.3371e-08	1.33YrCancerDerived_Inh_FAH16to70	5.3371e-08
559621	4242987	DieselExhPM	0.00024	5.5691e-08	1.33YrCancerDerived_Inh_FAH16to70	5.5691e-08
560024	4243335	DieselExhPM	0.00973	2.2578e-06	1.33YrCancerDerived_Inh_FAH16to70	2.2578e-06
559777	4243408	DieselExhPM	0.00184	4.2697e-07	1.33YrCancerDerived_Inh_FAH16to70	4.2697e-07
560032	4242933	DieselExhPM	0.00088	2.042e-07	1.33YrCancerDerived_Inh_FAH16to70	2.042e-07
559486	4243330	DieselExhPM	0.0008	1.8564e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8564e-07
559966	4242889	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
560109	4243286	DieselExhPM	0.00535	1.2415e-06	1.33YrCancerDerived_Inh_FAH16to70	1.2415e-06
559670	4242959	DieselExhPM	0.00032	7.4255e-08	1.33YrCancerDerived_Inh_FAH16to70	7.4255e-08
559650	4243392	DieselExhPM	0.00066	1.5315e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5315e-07
559722	4243369	DieselExhPM	0.00127	2.947e-07	1.33YrCancerDerived_Inh_FAH16to70	2.947e-07
559479	4243121	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
560088	4242945	DieselExhPM	0.00067	1.5547e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5547e-07
559885	4243342	DieselExhPM	0.01073	2.4899e-06	1.33YrCancerDerived_Inh_FAH16to70	2.4899e-06
559544	4243345	DieselExhPM	0.00084	1.9492e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9492e-07
559990	4243248	DieselExhPM	0.02289	5.3116e-06	1.33YrCancerDerived_Inh_FAH16to70	5.3116e-06
559634	4242919	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
560236	4243327	DieselExhPM	0.00166	3.852e-07	1.33YrCancerDerived_Inh_FAH16to70	3.852e-07
560058	4243223	DieselExhPM	0.01171	2.7173e-06	1.33YrCancerDerived_Inh_FAH16to70	2.7173e-06
559639	4243342	DieselExhPM	0.00111	2.5757e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5757e-07
559624	4243506	DieselExhPM	0.00026	6.0332e-08	1.33YrCancerDerived_Inh_FAH16to70	6.0332e-08
559918	4242883	DieselExhPM	0.00073	1.6939e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6939e-07
559538	4243021	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08
559942	4243406	DieselExhPM	0.00724	1.68e-06	1.33YrCancerDerived_Inh_FAH16to70	1.68e-06

560078	4243026	DieselExhPM	0.00143	3.3183e-07	1.33YrCancerDerived_Inh_FAH16to70	3.3183e-07
560141	4243295	DieselExhPM	0.00384	8.9106e-07	1.33YrCancerDerived_Inh_FAH16to70	8.9106e-07
559647	4242940	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
559923	4242910	DieselExhPM	0.00085	1.9724e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9724e-07
560218	4243101	DieselExhPM	0.00105	2.4365e-07	1.33YrCancerDerived_Inh_FAH16to70	2.4365e-07
559894	4243441	DieselExhPM	0.0039	9.0498e-07	1.33YrCancerDerived_Inh_FAH16to70	9.0498e-07
559974	4243084	DieselExhPM	0.00466	1.0813e-06	1.33YrCancerDerived_Inh_FAH16to70	1.0813e-06
559588	4243384	DieselExhPM	0.00063	1.4619e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4619e-07
559702	4243232	DieselExhPM	0.00495	1.1486e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1486e-06
559658	4243542	DieselExhPM	0.00025	5.8012e-08	1.33YrCancerDerived_Inh_FAH16to70	5.8012e-08
559816	4242887	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
560063	4243047	DieselExhPM	0.00226	5.2443e-07	1.33YrCancerDerived_Inh_FAH16to70	5.2443e-07
559492	4243379	DieselExhPM	0.00056	1.2995e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2995e-07
559551	4243423	DieselExhPM	0.00042	9.746e-08	1.33YrCancerDerived_Inh_FAH16to70	9.746e-08
559712	4243048	DieselExhPM	0.00074	1.7171e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7171e-07
559592	4243367	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
559664	4242983	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559538	4243419	DieselExhPM	0.00043	9.978e-08	1.33YrCancerDerived_Inh_FAH16to70	9.978e-08
560093	4243164	DieselExhPM	0.00756	1.7543e-06	1.33YrCancerDerived_Inh_FAH16to70	1.7543e-06
559728	4242950	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
559758	4243449	DieselExhPM	0.00095	2.2044e-07	1.33YrCancerDerived_Inh_FAH16to70	2.2044e-07
559970	4242838	DieselExhPM	0.00058	1.3459e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3459e-07
560278	4243094	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559601	4242982	DieselExhPM	0.0002	4.6409e-08	1.33YrCancerDerived_Inh_FAH16to70	4.6409e-08
559486	4243398	DieselExhPM	0.00047	1.0906e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0906e-07
559832	4243508	DieselExhPM	0.00141	3.2719e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2719e-07
560122	4243555	DieselExhPM	0.00221	5.1282e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1282e-07
559554	4243018	DieselExhPM	0.0002	4.6409e-08	1.33YrCancerDerived_Inh_FAH16to70	4.6409e-08
559917	4243043	DieselExhPM	0.00221	5.1282e-07	1.33YrCancerDerived_Inh_FAH16to70	5.1282e-07
559700	4243107	DieselExhPM	0.00109	2.5293e-07	1.33YrCancerDerived_Inh_FAH16to70	2.5293e-07
560065	4243075	DieselExhPM	0.00352	8.1681e-07	1.33YrCancerDerived_Inh_FAH16to70	8.1681e-07
560100	4243361	DieselExhPM	0.00465	1.079e-06	1.33YrCancerDerived_Inh_FAH16to70	1.079e-06
560166	4243422	DieselExhPM	0.00249	5.778e-07	1.33YrCancerDerived_Inh_FAH16to70	5.778e-07
559982	4243261	DieselExhPM	0.02355	5.4647e-06	1.33YrCancerDerived_Inh_FAH16to70	5.4647e-06
560115	4243430	DieselExhPM	0.00338	7.8432e-07	1.33YrCancerDerived_Inh_FAH16to70	7.8432e-07
560158	4243039	DieselExhPM	0.00082	1.9028e-07	1.33YrCancerDerived_Inh_FAH16to70	1.9028e-07
560302	4242902	DieselExhPM	0.00021	4.873e-08	1.33YrCancerDerived_Inh_FAH16to70	4.873e-08
560268	4243296	DieselExhPM	0.00134	3.1094e-07	1.33YrCancerDerived_Inh_FAH16to70	3.1094e-07
559588	4243431	DieselExhPM	0.00041	9.5139e-08	1.33YrCancerDerived_Inh_FAH16to70	9.5139e-08
560246	4242869	DieselExhPM	0.00023	5.3371e-08	1.33YrCancerDerived_Inh_FAH16to70	5.3371e-08

559632	4242939	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
560146	4242842	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
559866	4243112	DieselExhPM	0.00518	1.202e-06	1.33YrCancerDerived_Inh_FAH16to70	1.202e-06
559900	4243040	DieselExhPM	0.00208	4.8266e-07	1.33YrCancerDerived_Inh_FAH16to70	4.8266e-07
559613	4242914	DieselExhPM	0.00019	4.4089e-08	1.33YrCancerDerived_Inh_FAH16to70	4.4089e-08
559527	4243415	DieselExhPM	0.00044	1.021e-07	1.33YrCancerDerived_Inh_FAH16to70	1.021e-07
559649	4243332	DieselExhPM	0.00129	2.9934e-07	1.33YrCancerDerived_Inh_FAH16to70	2.9934e-07
559537	4243123	DieselExhPM	0.00057	1.3227e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3227e-07
559938	4242887	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
560179	4243448	DieselExhPM	0.00217	5.0354e-07	1.33YrCancerDerived_Inh_FAH16to70	5.0354e-07
559502	4243149	DieselExhPM	0.00068	1.5779e-07	1.33YrCancerDerived_Inh_FAH16to70	1.5779e-07
559686	4243419	DieselExhPM	0.00059	1.3691e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3691e-07
559560	4243455	DieselExhPM	0.00033	7.6576e-08	1.33YrCancerDerived_Inh_FAH16to70	7.6576e-08
559857	4242865	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
560173	4243011	DieselExhPM	0.0006	1.3923e-07	1.33YrCancerDerived_Inh_FAH16to70	1.3923e-07
559847	4243363	DieselExhPM	0.00678	1.5733e-06	1.33YrCancerDerived_Inh_FAH16to70	1.5733e-06
559812	4242856	DieselExhPM	0.00054	1.2531e-07	1.33YrCancerDerived_Inh_FAH16to70	1.2531e-07
559866	4243392	DieselExhPM	0.00528	1.2252e-06	1.33YrCancerDerived_Inh_FAH16to70	1.2252e-06
559664	4242901	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559518	4243118	DieselExhPM	0.0005	1.1602e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1602e-07
559763	4242938	DieselExhPM	0.00062	1.4387e-07	1.33YrCancerDerived_Inh_FAH16to70	1.4387e-07
559800	4243550	DieselExhPM	0.00076	1.7636e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7636e-07
559656	4243319	DieselExhPM	0.00157	3.6431e-07	1.33YrCancerDerived_Inh_FAH16to70	3.6431e-07
559510	4243073	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
559543	4243064	DieselExhPM	0.00029	6.7294e-08	1.33YrCancerDerived_Inh_FAH16to70	6.7294e-08
559698	4243315	DieselExhPM	0.00201	4.6642e-07	1.33YrCancerDerived_Inh_FAH16to70	4.6642e-07
560235	4242946	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
559671	4242944	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
560172	4242844	DieselExhPM	0.00027	6.2653e-08	1.33YrCancerDerived_Inh_FAH16to70	6.2653e-08
559892	4243112	DieselExhPM	0.00564	1.3087e-06	1.33YrCancerDerived_Inh_FAH16to70	1.3087e-06
559481	4243347	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559652	4243300	DieselExhPM	0.00198	4.5945e-07	1.33YrCancerDerived_Inh_FAH16to70	4.5945e-07
559558	4242990	DieselExhPM	0.00017	3.9448e-08	1.33YrCancerDerived_Inh_FAH16to70	3.9448e-08
559924	4243073	DieselExhPM	0.00321	7.4487e-07	1.33YrCancerDerived_Inh_FAH16to70	7.4487e-07
559623	4243482	DieselExhPM	0.0003	6.9614e-08	1.33YrCancerDerived_Inh_FAH16to70	6.9614e-08
560194	4243046	DieselExhPM	0.00073	1.6939e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6939e-07
560131	4243478	DieselExhPM	0.00268	6.2189e-07	1.33YrCancerDerived_Inh_FAH16to70	6.2189e-07
559530	4243229	DieselExhPM	0.00139	3.2255e-07	1.33YrCancerDerived_Inh_FAH16to70	3.2255e-07
560119	4243000	DieselExhPM	0.00077	1.7868e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7868e-07
559521	4243470	DieselExhPM	0.00028	6.4973e-08	1.33YrCancerDerived_Inh_FAH16to70	6.4973e-08

559732	4243352	DieselExhPM	0.00181	4.2001e-07	1.33YrCancerDerived_Inh_FAH16to70	4.2001e-07
560082	4243240	DieselExhPM	0.00815	1.8912e-06	1.33YrCancerDerived_Inh_FAH16to70	1.8912e-06
559772	4243487	DieselExhPM	0.00083	1.926e-07	1.33YrCancerDerived_Inh_FAH16to70	1.926e-07
559895	4242877	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
559789	4243120	DieselExhPM	0.00374	8.6786e-07	1.33YrCancerDerived_Inh_FAH16to70	8.6786e-07
559573	4243175	DieselExhPM	0.00121	2.8078e-07	1.33YrCancerDerived_Inh_FAH16to70	2.8078e-07
560246	4242979	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
560068	4242853	DieselExhPM	0.00046	1.0674e-07	1.33YrCancerDerived_Inh_FAH16to70	1.0674e-07
559785	4242851	DieselExhPM	0.00048	1.1138e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1138e-07
559488	4243426	DieselExhPM	0.00038	8.8178e-08	1.33YrCancerDerived_Inh_FAH16to70	8.8178e-08
560027	4243065	DieselExhPM	0.00417	9.6764e-07	1.33YrCancerDerived_Inh_FAH16to70	9.6764e-07
559762	4242876	DieselExhPM	0.00048	1.1138e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1138e-07
559640	4243256	DieselExhPM	0.00288	6.683e-07	1.33YrCancerDerived_Inh_FAH16to70	6.683e-07
559625	4242950	DieselExhPM	0.00022	5.105e-08	1.33YrCancerDerived_Inh_FAH16to70	5.105e-08
559987	4243422	DieselExhPM	0.00642	1.4897e-06	1.33YrCancerDerived_Inh_FAH16to70	1.4897e-06
559560	4243003	DieselExhPM	0.00018	4.1769e-08	1.33YrCancerDerived_Inh_FAH16to70	4.1769e-08
559739	4243441	DieselExhPM	0.00079	1.8332e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8332e-07
560181	4243221	DieselExhPM	0.00256	5.9404e-07	1.33YrCancerDerived_Inh_FAH16to70	5.9404e-07
560296	4243060	DieselExhPM	0.00051	1.1834e-07	1.33YrCancerDerived_Inh_FAH16to70	1.1834e-07
560244	4243382	DieselExhPM	0.00151	3.5039e-07	1.33YrCancerDerived_Inh_FAH16to70	3.5039e-07
559497	4243157	DieselExhPM	0.00073	1.6939e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6939e-07
559644	4243486	DieselExhPM	0.00031	7.1935e-08	1.33YrCancerDerived_Inh_FAH16to70	7.1935e-08
560176	4243326	DieselExhPM	0.00268	6.2189e-07	1.33YrCancerDerived_Inh_FAH16to70	6.2189e-07
559492	4243165	DieselExhPM	0.00077	1.7868e-07	1.33YrCancerDerived_Inh_FAH16to70	1.7868e-07
560099	4243302	DieselExhPM	0.00567	1.3157e-06	1.33YrCancerDerived_Inh_FAH16to70	1.3157e-06
560199	4242938	DieselExhPM	0.00035	8.1217e-08	1.33YrCancerDerived_Inh_FAH16to70	8.1217e-08
560111	4243078	DieselExhPM	0.00205	4.757e-07	1.33YrCancerDerived_Inh_FAH16to70	4.757e-07
559901	4243422	DieselExhPM	0.00486	1.1277e-06	1.33YrCancerDerived_Inh_FAH16to70	1.1277e-06
559627	4243370	DieselExhPM	0.0008	1.8564e-07	1.33YrCancerDerived_Inh_FAH16to70	1.8564e-07
560187	4243309	DieselExhPM	0.00249	5.778e-07	1.33YrCancerDerived_Inh_FAH16to70	5.778e-07
559620	4243380	DieselExhPM	0.0007	1.6243e-07	1.33YrCancerDerived_Inh_FAH16to70	1.6243e-07
560285	4243301	DieselExhPM	0.0012	2.7846e-07	1.33YrCancerDerived_Inh_FAH16to70	2.7846e-07

HARP2 - HRACalc (dated 22118) 4/11/2024 8:44:07 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCChronic
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating chronic risk
Chronic risk saved to: F:\Jobs\35520009\HARP\ResChronicAllReceptors_NCChronicRisk.csv
HRA ran successfully

*HARP - HRACalc v22118 4/11/2024 8:44:07 AM -
Chronic Risk - Input File: F:\Jobs\35520009\HARP\ResChronicAllReceptors_HRAInput.hra

UTME	UTMN	Pollutant	Conc (ug/m3)	CV	CNS	IMMUN	KIDNEY	GILV	REPRO	RESP	SKIN	EYE	B/T	ENDO	BLOOD	ODOR	GEN
559786	4243494	DieselExhPM	0.00095	0.0	0.0	0.0	0.0	0.0	0.0	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559571	4243381	DieselExhPM	0.00063	0.0	0.0	0.0	0.0	0.0	0.0	0.000126	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559566	4242976	DieselExhPM	0.00016	0.0	0.0	0.0	0.0	0.0	0.0	3.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559511	4243435	DieselExhPM	0.00036	0.0	0.0	0.0	0.0	0.0	0.0	7.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560032	4242845	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559795	4243066	DieselExhPM	0.00193	0.0	0.0	0.0	0.0	0.0	0.0	0.000386	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559722	4243434	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559659	4242922	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559877	4242874	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559575	4243020	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559743	4243333	DieselExhPM	0.00292	0.0	0.0	0.0	0.0	0.0	0.0	0.000584	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559869	4242899	DieselExhPM	0.00075	0.0	0.0	0.0	0.0	0.0	0.0	0.00015	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560007	4243008	DieselExhPM	0.00191	0.0	0.0	0.0	0.0	0.0	0.0	0.000382	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560067	4243502	DieselExhPM	0.00324	0.0	0.0	0.0	0.0	0.0	0.0	0.000648	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559837	4243383	DieselExhPM	0.00497	0.0	0.0	0.0	0.0	0.0	0.0	0.000994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560083	4243005	DieselExhPM	0.00109	0.0	0.0	0.0	0.0	0.0	0.0	0.000218	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560022	4242979	DieselExhPM	0.00135	0.0	0.0	0.0	0.0	0.0	0.0	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560055	4242907	DieselExhPM	0.00065	0.0	0.0	0.0	0.0	0.0	0.0	0.00013	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559617	4243316	DieselExhPM	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560009	4243389	DieselExhPM	0.00766	0.0	0.0	0.0	0.0	0.0	0.0	0.001532	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560034	4243262	DieselExhPM	0.01323	0.0	0.0	0.0	0.0	0.0	0.0	0.002646	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560206	4243383	DieselExhPM	0.00198	0.0	0.0	0.0	0.0	0.0	0.0	0.000396	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559831	4242864	DieselExhPM	0.00059	0.0	0.0	0.0	0.0	0.0	0.0	0.000118	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560156	4242960	DieselExhPM	0.00048	0.0	0.0	0.0	0.0	0.0	0.0	9.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560002	4243314	DieselExhPM	0.01389	0.0	0.0	0.0	0.0	0.0	0.0	0.002778	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559504	4243463	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560143	4243459	DieselExhPM	0.00264	0.0	0.0	0.0	0.0	0.0	0.0	0.000528	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559680	4242898	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560230	4243054	DieselExhPM	0.00065	0.0	0.0	0.0	0.0	0.0	0.0	0.00013	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560120	4243497	DieselExhPM	0.00268	0.0	0.0	0.0	0.0	0.0	0.0	0.000536	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559805	4243413	DieselExhPM	0.00257	0.0	0.0	0.0	0.0	0.0	0.0	0.000514	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560112	4243546	DieselExhPM	0.00235	0.0	0.0	0.0	0.0	0.0	0.0	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559862	4243464	DieselExhPM	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560236	4243399	DieselExhPM	0.00158	0.0	0.0	0.0	0.0	0.0	0.0	0.000316	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559643	4243093	DieselExhPM	0.00059	0.0	0.0	0.0	0.0	0.0	0.0	0.000118	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559745	4242872	DieselExhPM	0.00043	0.0	0.0	0.0	0.0	0.0	0.0	8.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560208	4242849	DieselExhPM	0.00024	0.0	0.0	0.0	0.0	0.0	0.0	4.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560110	4243344	DieselExhPM	0.0045	0.0	0.0	0.0	0.0	0.0	0.0	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559567	4243075	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560022	4243196	DieselExhPM	0.01945	0.0	0.0	0.0	0.0	0.0	0.0	0.00389	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560237	4243105	DieselExhPM	0.00096	0.0	0.0	0.0	0.0	0.0	0.0	0.000192	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559582	4243444	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559760	4243309	DieselExhPM	0.00652	0.0	0.0	0.0	0.0	0.0	0.0	0.001304	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559860	4243332	DieselExhPM	0.01052	0.0	0.0	0.0	0.0	0.0	0.0	0.002104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559538	4243477	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559527	4243344	DieselExhPM	0.00081	0.0	0.0	0.0	0.0	0.0	0.0	0.000162	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559565	4243357	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560060	4242993	DieselExhPM	0.00121	0.0	0.0	0.0	0.0	0.0	0.0	0.000242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559704	4243427	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559722	4243108	DieselExhPM	0.00142	0.0	0.0	0.0	0.0	0.0	0.0	0.000284	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559585	4243295	DieselExhPM	0.00153	0.0	0.0	0.0	0.0	0.0	0.0	0.000306	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559941	4242914	DieselExhPM	0.00088	0.0	0.0	0.0	0.0	0.0	0.0	0.000176	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559554	4243238	DieselExhPM	0.00161	0.0	0.0	0.0	0.0	0.0	0.0	0.000322	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559618	4242915	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559988	4243059	DieselExhPM	0.00344	0.0	0.0	0.0	0.0	0.0	0.0	0.000688	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559666	4243196	DieselExhPM	0.00279	0.0	0.0	0.0	0.0	0.0	0.0	0.000558	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559984	4242997	DieselExhPM	0.00167	0.0	0.0	0.0	0.0	0.0	0.0	0.000334	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559742	4243384	DieselExhPM	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559798	4242883	DieselExhPM	0.00057	0.0	0.0	0.0	0.0	0.0	0.0	0.000114	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560104	4242860	DieselExhPM	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559607	4243464	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559712	4243384	DieselExhPM	0.00097	0.0	0.0	0.0	0.0	0.0	0.0	0.000194	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560176	4243043	DieselExhPM	0.00077	0.0	0.0	0.0	0.0	0.0	0.0	0.000154	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560244	4243026	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559851	4243500	DieselExhPM	0.00179	0.0	0.0	0.0	0.0	0.0	0.0	0.000358	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559733	4243055	DieselExhPM	0.00098	0.0	0.0	0.0	0.0	0.0	0.0	0.000196	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560227	4243023	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559834	4242934	DieselExhPM	0.00083	0.0	0.0	0.0	0.0	0.0	0.0	0.000166	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559630	4243424	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559548	4243401	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559695	4243504	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559601	4243411	DieselExhPM	0.0005	0.0	0.0	0.0	0.0	0.0	0.0	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560139	4242868	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559851	4242895	DieselExhPM	0.00071	0.0	0.0	0.0	0.0	0.0	0.0	0.000142	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560193	4242967	DieselExhPM	0.00041	0.0	0.0	0.0	0.0	0.0	0.0	8.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560151	4243222	DieselExhPM	0.00352	0.0	0.0	0.0	0.0	0.0	0.0	0.000704	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559488	4243456	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560027	4243013	DieselExhPM	0.00191	0.0	0.0	0.0	0.0	0.0	0.0	0.000382	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560249	4243058	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559687	4243326	DieselExhPM	0.00163	0.0	0.0	0.0	0.0	0.0	0.0	0.000326	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560004	4242976	DieselExhPM	0.00137	0.0	0.0	0.0	0.0	0.0	0.0	0.000274	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559731	4243528	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560196	4243350	DieselExhPM	0.00221	0.0	0.0	0.0	0.0	0.0	0.0	0.000442	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559614	4243330	DieselExhPM	0.00119	0.0	0.0	0.0	0.0	0.0	0.0	0.000238	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559514	4243074	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560042	4243032	DieselExhPM	0.00225	0.0	0.0	0.0	0.0	0.0	0.0	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559501	4243433	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559620	4243440	DieselExhPM	0.00041	0.0	0.0	0.0	0.0	0.0	0.0	8.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560010	4243300	DieselExhPM	0.01395	0.0	0.0	0.0	0.0	0.0	0.0	0.00279	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559587	4243080	DieselExhPM	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560211	4242971	DieselExhPM	0.00039	0.0	0.0	0.0	0.0	0.0	0.0	7.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559763	4242840	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559511	4243134	DieselExhPM	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.00012	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560245	4243370	DieselExhPM	0.00152	0.0	0.0	0.0	0.0	0.0	0.0	0.000304	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559578	4242978	DieselExhPM	0.00018	0.0	0.0	0.0	0.0	0.0	0.0	3.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560158	4242872	DieselExhPM	0.00032	0.0	0.0	0.0	0.0	0.0	0.0	6.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559680	4242903	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559970	4243055	DieselExhPM	0.00289	0.0	0.0	0.0	0.0	0.0	0.0	0.000578	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560030	4243183	DieselExhPM	0.01859	0.0	0.0	0.0	0.0	0.0	0.0	0.003718	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559514	4243409	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559535	4243396	DieselExhPM	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.000104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560048	4243297	DieselExhPM	0.00954	0.0	0.0	0.0	0.0	0.0	0.0	0.001908	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560015	4242841	DieselExhPM	0.00053	0.0	0.0	0.0	0.0	0.0	0.0	0.000106	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559814	4243062	DieselExhPM	0.00206	0.0	0.0	0.0	0.0	0.0	0.0	0.000412	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560020	4242900	DieselExhPM	0.00073	0.0	0.0	0.0	0.0	0.0	0.0	0.000146	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559881	4243433	DieselExhPM	0.00386	0.0	0.0	0.0	0.0	0.0	0.0	0.000772	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560147	4243085	DieselExhPM	0.00157	0.0	0.0	0.0	0.0	0.0	0.0	0.000314	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560200	4243097	DieselExhPM	0.00115	0.0	0.0	0.0	0.0	0.0	0.0	0.00023	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559787	4243303	DieselExhPM	0.01163	0.0	0.0	0.0	0.0	0.0	0.0	0.002326	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559640	4243408	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560209	4243019	DieselExhPM	0.00053	0.0	0.0	0.0	0.0	0.0	0.0	0.000106	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560212	4243050	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559655	4243269	DieselExhPM	0.00295	0.0	0.0	0.0	0.0	0.0	0.0	0.00059	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560155	4243007	DieselExhPM	0.00064	0.0	0.0	0.0	0.0	0.0	0.0	0.000128	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559974	4243274	DieselExhPM	0.02396	0.0	0.0	0.0	0.0	0.0	0.0	0.004792	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559966	4243286	DieselExhPM	0.02409	0.0	0.0	0.0	0.0	0.0	0.0	0.004818	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559859	4243487	DieselExhPM	0.0021	0.0	0.0	0.0	0.0	0.0	0.0	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560050	4242849	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559670	4243445	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559781	4243315	DieselExhPM	0.00847	0.0	0.0	0.0	0.0	0.0	0.0	0.001694	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560127	4242923	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559669	4243159	DieselExhPM	0.00181	0.0	0.0	0.0	0.0	0.0	0.0	0.000362	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560183	4243093	DieselExhPM	0.00127	0.0	0.0	0.0	0.0	0.0	0.0	0.000254	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560130	4243312	DieselExhPM	0.0041	0.0	0.0	0.0	0.0	0.0	0.0	0.00082	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559667	4242971	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559545	4243369	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559944	4242999	DieselExhPM	0.00156	0.0	0.0	0.0	0.0	0.0	0.0	0.000312	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560073	4242911	DieselExhPM	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.00012	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560154	4243440	DieselExhPM	0.00259	0.0	0.0	0.0	0.0	0.0	0.0	0.000518	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559874	4243472	DieselExhPM	0.00265	0.0	0.0	0.0	0.0	0.0	0.0	0.00053	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560127	4243411	DieselExhPM	0.00332	0.0	0.0	0.0	0.0	0.0	0.0	0.000664	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560192	4243477	DieselExhPM	0.00191	0.0	0.0	0.0	0.0	0.0	0.0	0.000382	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560264	4243031	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559576	4243459	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559885	4243337	DieselExhPM	0.01165	0.0	0.0	0.0	0.0	0.0	0.0	0.00233	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559547	4243449	DieselExhPM	0.00034	0.0	0.0	0.0	0.0	0.0	0.0	6.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560233	4243285	DieselExhPM	0.00172	0.0	0.0	0.0	0.0	0.0	0.0	0.000344	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559681	4243221	DieselExhPM	0.00389	0.0	0.0	0.0	0.0	0.0	0.0	0.000778	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560060	4243278	DieselExhPM	0.00919	0.0	0.0	0.0	0.0	0.0	0.0	0.001838	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559759	4243481	DieselExhPM	0.00075	0.0	0.0	0.0	0.0	0.0	0.0	0.00015	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559723	4243468	DieselExhPM	0.00054	0.0	0.0	0.0	0.0	0.0	0.0	0.000108	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559804	4242928	DieselExhPM	0.00072	0.0	0.0	0.0	0.0	0.0	0.0	0.000144	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559669	4243362	DieselExhPM	0.00097	0.0	0.0	0.0	0.0	0.0	0.0	0.000194	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559838	4243423	DieselExhPM	0.00319	0.0	0.0	0.0	0.0	0.0	0.0	0.000638	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559481	4243378	DieselExhPM	0.00055	0.0	0.0	0.0	0.0	0.0	0.0	0.00011	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560086	4243333	DieselExhPM	0.00574	0.0	0.0	0.0	0.0	0.0	0.0	0.001148	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560123	4243031	DieselExhPM	0.00097	0.0	0.0	0.0	0.0	0.0	0.0	0.000194	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559909	4242991	DieselExhPM	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559635	4243296	DieselExhPM	0.00193	0.0	0.0	0.0	0.0	0.0	0.0	0.000386	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560083	4243183	DieselExhPM	0.00914	0.0	0.0	0.0	0.0	0.0	0.0	0.001828	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560026	4243274	DieselExhPM	0.01356	0.0	0.0	0.0	0.0	0.0	0.0	0.002712	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559764	4243115	DieselExhPM	0.00267	0.0	0.0	0.0	0.0	0.0	0.0	0.000534	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560229	4242975	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559659	4242942	DieselExhPM	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	5.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559653	4243155	DieselExhPM	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560180	4242934	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559919	4243112	DieselExhPM	0.00611	0.0	0.0	0.0	0.0	0.0	0.0	0.001222	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559562	4243407	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560066	4243258	DieselExhPM	0.00927	0.0	0.0	0.0	0.0	0.0	0.0	0.001854	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560104	4243028	DieselExhPM	0.00111	0.0	0.0	0.0	0.0	0.0	0.0	0.000222	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559715	4243508	DieselExhPM	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560287	4243076	DieselExhPM	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.00012	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559594	4242939	DieselExhPM	0.00017	0.0	0.0	0.0	0.0	0.0	0.0	3.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560137	4243004	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560017	4243374	DieselExhPM	0.00807	0.0	0.0	0.0	0.0	0.0	0.0	0.001614	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559852	4243427	DieselExhPM	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.00068	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560211	4242883	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560064	4243350	DieselExhPM	0.00645	0.0	0.0	0.0	0.0	0.0	0.0	0.00129	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560175	4242876	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559572	4243408	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560290	4242866	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560191	4243015	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560042	4243249	DieselExhPM	0.01278	0.0	0.0	0.0	0.0	0.0	0.0	0.002556	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560172	4243502	DieselExhPM	0.00204	0.0	0.0	0.0	0.0	0.0	0.0	0.000408	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560036	4243316	DieselExhPM	0.00973	0.0	0.0	0.0	0.0	0.0	0.0	0.001946	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559534	4243443	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559611	4243173	DieselExhPM	0.00146	0.0	0.0	0.0	0.0	0.0	0.0	0.000292	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559590	4242980	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559483	4243212	DieselExhPM	0.00104	0.0	0.0	0.0	0.0	0.0	0.0	0.000208	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560019	4243286	DieselExhPM	0.0138	0.0	0.0	0.0	0.0	0.0	0.0	0.00276	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559668	4243039	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560094	4243465	DieselExhPM	0.00338	0.0	0.0	0.0	0.0	0.0	0.0	0.000676	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560165	4243089	DieselExhPM	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560069	4243193	DieselExhPM	0.01107	0.0	0.0	0.0	0.0	0.0	0.0	0.002214	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560264	4242983	DieselExhPM	0.00034	0.0	0.0	0.0	0.0	0.0	0.0	6.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560271	4243330	DieselExhPM	0.00131	0.0	0.0	0.0	0.0	0.0	0.0	0.000262	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560129	4243080	DieselExhPM	0.00176	0.0	0.0	0.0	0.0	0.0	0.0	0.000352	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560004	4243066	DieselExhPM	0.00423	0.0	0.0	0.0	0.0	0.0	0.0	0.000846	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559679	4243501	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559530	4243123	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560146	4243374	DieselExhPM	0.00315	0.0	0.0	0.0	0.0	0.0	0.0	0.00063	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559520	4243076	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559595	4243423	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559995	4242925	DieselExhPM	0.00093	0.0	0.0	0.0	0.0	0.0	0.0	0.000186	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560074	4243557	DieselExhPM	0.0025	0.0	0.0	0.0	0.0	0.0	0.0	0.0005	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559718	4243283	DieselExhPM	0.00395	0.0	0.0	0.0	0.0	0.0	0.0	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559653	4242995	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559999	4243405	DieselExhPM	0.00709	0.0	0.0	0.0	0.0	0.0	0.0	0.001418	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560108	4243515	DieselExhPM	0.00266	0.0	0.0	0.0	0.0	0.0	0.0	0.000532	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559993	4243328	DieselExhPM	0.01362	0.0	0.0	0.0	0.0	0.0	0.0	0.002724	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559935	4243047	DieselExhPM	0.00236	0.0	0.0	0.0	0.0	0.0	0.0	0.000472	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559811	4243484	DieselExhPM	0.00138	0.0	0.0	0.0	0.0	0.0	0.0	0.000276	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559846	4243520	DieselExhPM	0.00146	0.0	0.0	0.0	0.0	0.0	0.0	0.000292	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559622	4243303	DieselExhPM	0.00166	0.0	0.0	0.0	0.0	0.0	0.0	0.000332	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560065	4243209	DieselExhPM	0.01132	0.0	0.0	0.0	0.0	0.0	0.0	0.002264	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560139	4242956	DieselExhPM	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.000104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559560	4243141	DieselExhPM	0.00078	0.0	0.0	0.0	0.0	0.0	0.0	0.000156	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559706	4243460	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559789	4243546	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559732	4243210	DieselExhPM	0.00648	0.0	0.0	0.0	0.0	0.0	0.0	0.001296	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559860	4243273	DieselExhPM	0.02145	0.0	0.0	0.0	0.0	0.0	0.0	0.00429	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559847	4242968	DieselExhPM	0.00105	0.0	0.0	0.0	0.0	0.0	0.0	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560040	4242983	DieselExhPM	0.00128	0.0	0.0	0.0	0.0	0.0	0.0	0.000256	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559506	4243222	DieselExhPM	0.00121	0.0	0.0	0.0	0.0	0.0	0.0	0.000242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559666	4243304	DieselExhPM	0.00199	0.0	0.0	0.0	0.0	0.0	0.0	0.000398	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559761	4243391	DieselExhPM	0.00173	0.0	0.0	0.0	0.0	0.0	0.0	0.000346	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559950	4243314	DieselExhPM	0.02266	0.0	0.0	0.0	0.0	0.0	0.0	0.004532	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559844	4243067	DieselExhPM	0.00252	0.0	0.0	0.0	0.0	0.0	0.0	0.000504	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559606	4243085	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560037	4242904	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559797	4243425	DieselExhPM	0.00204	0.0	0.0	0.0	0.0	0.0	0.0	0.000408	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559694	4243047	DieselExhPM	0.00061	0.0	0.0	0.0	0.0	0.0	0.0	0.000122	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559494	4243351	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560091	4242915	DieselExhPM	0.00055	0.0	0.0	0.0	0.0	0.0	0.0	0.00011	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559780	4242879	DieselExhPM	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.000104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560263	4243103	DieselExhPM	0.00081	0.0	0.0	0.0	0.0	0.0	0.0	0.000162	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560127	4243248	DieselExhPM	0.00471	0.0	0.0	0.0	0.0	0.0	0.0	0.000942	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559603	4243018	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559945	4242884	DieselExhPM	0.00075	0.0	0.0	0.0	0.0	0.0	0.0	0.00015	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559881	4243396	DieselExhPM	0.00549	0.0	0.0	0.0	0.0	0.0	0.0	0.001098	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560103	4242948	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559926	4242995	DieselExhPM	0.00147	0.0	0.0	0.0	0.0	0.0	0.0	0.000294	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559879	4243067	DieselExhPM	0.00279	0.0	0.0	0.0	0.0	0.0	0.0	0.000558	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560141	4243035	DieselExhPM	0.00089	0.0	0.0	0.0	0.0	0.0	0.0	0.000178	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559575	4243359	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559662	4243098	DieselExhPM	0.00071	0.0	0.0	0.0	0.0	0.0	0.0	0.000142	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560121	4242864	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559641	4242992	DieselExhPM	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	5.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559905	4242906	DieselExhPM	0.00082	0.0	0.0	0.0	0.0	0.0	0.0	0.000164	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559602	4243186	DieselExhPM	0.00161	0.0	0.0	0.0	0.0	0.0	0.0	0.000322	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559558	4243376	DieselExhPM	0.00065	0.0	0.0	0.0	0.0	0.0	0.0	0.00013	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559540	4243070	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559595	4243157	DieselExhPM	0.0011	0.0	0.0	0.0	0.0	0.0	0.0	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559607	4243400	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560201	4243286	DieselExhPM	0.00223	0.0	0.0	0.0	0.0	0.0	0.0	0.000446	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559610	4242913	DieselExhPM	0.00018	0.0	0.0	0.0	0.0	0.0	0.0	3.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559613	4243392	DieselExhPM	0.00061	0.0	0.0	0.0	0.0	0.0	0.0	0.000122	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559967	4243412	DieselExhPM	0.00713	0.0	0.0	0.0	0.0	0.0	0.0	0.001426	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559489	4243172	DieselExhPM	0.00081	0.0	0.0	0.0	0.0	0.0	0.0	0.000162	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560094	4243083	DieselExhPM	0.00277	0.0	0.0	0.0	0.0	0.0	0.0	0.000554	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559821	4243473	DieselExhPM	0.00168	0.0	0.0	0.0	0.0	0.0	0.0	0.000336	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559572	4243491	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560050	4243236	DieselExhPM	0.01229	0.0	0.0	0.0	0.0	0.0	0.0	0.002458	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560049	4242937	DieselExhPM	0.00082	0.0	0.0	0.0	0.0	0.0	0.0	0.000164	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559653	4242898	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560090	4243542	DieselExhPM	0.00256	0.0	0.0	0.0	0.0	0.0	0.0	0.000512	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559522	4243439	DieselExhPM	0.00036	0.0	0.0	0.0	0.0	0.0	0.0	7.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559589	4243498	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559506	4243141	DieselExhPM	0.00064	0.0	0.0	0.0	0.0	0.0	0.0	0.000128	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559477	4243424	DieselExhPM	0.00038	0.0	0.0	0.0	0.0	0.0	0.0	7.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559631	4243209	DieselExhPM	0.00236	0.0	0.0	0.0	0.0	0.0	0.0	0.000472	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560091	4242858	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559640	4243195	DieselExhPM	0.00223	0.0	0.0	0.0	0.0	0.0	0.0	0.000446	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559621	4242961	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559961	4243374	DieselExhPM	0.01083	0.0	0.0	0.0	0.0	0.0	0.0	0.002166	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559841	4243113	DieselExhPM	0.00472	0.0	0.0	0.0	0.0	0.0	0.0	0.000944	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560121	4242952	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560082	4243478	DieselExhPM	0.00339	0.0	0.0	0.0	0.0	0.0	0.0	0.000678	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559833	4242891	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559550	4243027	DieselExhPM	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	4.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559800	4243501	DieselExhPM	0.00106	0.0	0.0	0.0	0.0	0.0	0.0	0.000212	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559911	4243362	DieselExhPM	0.01047	0.0	0.0	0.0	0.0	0.0	0.0	0.002094	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559899	4243069	DieselExhPM	0.00297	0.0	0.0	0.0	0.0	0.0	0.0	0.000594	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559789	4242850	DieselExhPM	0.00048	0.0	0.0	0.0	0.0	0.0	0.0	9.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560101	4242998	DieselExhPM	0.00088	0.0	0.0	0.0	0.0	0.0	0.0	0.000176	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560014	4243209	DieselExhPM	0.02032	0.0	0.0	0.0	0.0	0.0	0.0	0.004064	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559686	4243164	DieselExhPM	0.00227	0.0	0.0	0.0	0.0	0.0	0.0	0.000454	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559971	4243360	DieselExhPM	0.01212	0.0	0.0	0.0	0.0	0.0	0.0	0.002424	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559879	4242870	DieselExhPM	0.00066	0.0	0.0	0.0	0.0	0.0	0.0	0.000132	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559915	4242958	DieselExhPM	0.00113	0.0	0.0	0.0	0.0	0.0	0.0	0.000226	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560109	4242919	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559742	4243476	DieselExhPM	0.00063	0.0	0.0	0.0	0.0	0.0	0.0	0.000126	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559608	4243346	DieselExhPM	0.00098	0.0	0.0	0.0	0.0	0.0	0.0	0.000196	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559555	4243484	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560228	4242888	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560120	4243328	DieselExhPM	0.00432	0.0	0.0	0.0	0.0	0.0	0.0	0.000864	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559708	4243300	DieselExhPM	0.00272	0.0	0.0	0.0	0.0	0.0	0.0	0.000544	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559624	4243089	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560200	4243266	DieselExhPM	0.00225	0.0	0.0	0.0	0.0	0.0	0.0	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559679	4243346	DieselExhPM	0.00122	0.0	0.0	0.0	0.0	0.0	0.0	0.000244	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560190	4242845	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560056	4243523	DieselExhPM	0.00302	0.0	0.0	0.0	0.0	0.0	0.0	0.000604	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559606	4243502	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560175	4242964	DieselExhPM	0.00044	0.0	0.0	0.0	0.0	0.0	0.0	8.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560147	4243517	DieselExhPM	0.00222	0.0	0.0	0.0	0.0	0.0	0.0	0.000444	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560099	4243152	DieselExhPM	0.00642	0.0	0.0	0.0	0.0	0.0	0.0	0.001284	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560038	4243554	DieselExhPM	0.00266	0.0	0.0	0.0	0.0	0.0	0.0	0.000532	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559616	4243156	DieselExhPM	0.00121	0.0	0.0	0.0	0.0	0.0	0.0	0.000242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559755	4243059	DieselExhPM	0.00127	0.0	0.0	0.0	0.0	0.0	0.0	0.000254	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559679	4243270	DieselExhPM	0.00352	0.0	0.0	0.0	0.0	0.0	0.0	0.000704	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559766	4242842	DieselExhPM	0.00043	0.0	0.0	0.0	0.0	0.0	0.0	8.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560045	4243426	DieselExhPM	0.0051	0.0	0.0	0.0	0.0	0.0	0.0	0.00102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559647	4243034	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559563	4243426	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559775	4243062	DieselExhPM	0.00157	0.0	0.0	0.0	0.0	0.0	0.0	0.000314	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559807	4242859	DieselExhPM	0.00053	0.0	0.0	0.0	0.0	0.0	0.0	0.000106	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560286	4243333	DieselExhPM	0.00119	0.0	0.0	0.0	0.0	0.0	0.0	0.000238	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560130	4243515	DieselExhPM	0.00242	0.0	0.0	0.0	0.0	0.0	0.0	0.000484	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560146	4243254	DieselExhPM	0.00379	0.0	0.0	0.0	0.0	0.0	0.0	0.000758	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559980	4243015	DieselExhPM	0.00197	0.0	0.0	0.0	0.0	0.0	0.0	0.000394	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559649	4242921	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560251	4243289	DieselExhPM	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560289	4242957	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559932	4242962	DieselExhPM	0.00118	0.0	0.0	0.0	0.0	0.0	0.0	0.000236	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560156	4243358	DieselExhPM	0.003	0.0	0.0	0.0	0.0	0.0	0.0	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560247	4242892	DieselExhPM	0.00024	0.0	0.0	0.0	0.0	0.0	0.0	4.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559775	4243540	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559913	4243406	DieselExhPM	0.00623	0.0	0.0	0.0	0.0	0.0	0.0	0.001246	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559850	4242868	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560144	4242926	DieselExhPM	0.00043	0.0	0.0	0.0	0.0	0.0	0.0	8.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559513	4243341	DieselExhPM	0.0008	0.0	0.0	0.0	0.0	0.0	0.0	0.00016	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559502	4243335	DieselExhPM	0.00081	0.0	0.0	0.0	0.0	0.0	0.0	0.000162	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560252	4243332	DieselExhPM	0.00148	0.0	0.0	0.0	0.0	0.0	0.0	0.000296	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559851	4243387	DieselExhPM	0.00513	0.0	0.0	0.0	0.0	0.0	0.0	0.001026	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559523	4243361	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560283	4242898	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559813	4243321	DieselExhPM	0.01125	0.0	0.0	0.0	0.0	0.0	0.0	0.00225	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559599	4243265	DieselExhPM	0.00204	0.0	0.0	0.0	0.0	0.0	0.0	0.000408	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559960	4242918	DieselExhPM	0.00091	0.0	0.0	0.0	0.0	0.0	0.0	0.000182	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560108	4243134	DieselExhPM	0.00477	0.0	0.0	0.0	0.0	0.0	0.0	0.000954	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559634	4243149	DieselExhPM	0.00122	0.0	0.0	0.0	0.0	0.0	0.0	0.000244	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560104	4243447	DieselExhPM	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.00068	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560252	4242949	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560086	4243320	DieselExhPM	0.00601	0.0	0.0	0.0	0.0	0.0	0.0	0.001202	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560177	4243489	DieselExhPM	0.00204	0.0	0.0	0.0	0.0	0.0	0.0	0.000408	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559594	4243201	DieselExhPM	0.00173	0.0	0.0	0.0	0.0	0.0	0.0	0.000346	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559997	4243327	DieselExhPM	0.01317	0.0	0.0	0.0	0.0	0.0	0.0	0.002634	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559901	4242875	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559998	4243235	DieselExhPM	0.02222	0.0	0.0	0.0	0.0	0.0	0.0	0.004444	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559958	4243299	DieselExhPM	0.0238	0.0	0.0	0.0	0.0	0.0	0.0	0.00476	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559861	4243065	DieselExhPM	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560042	4243015	DieselExhPM	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.00036	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560166	4243260	DieselExhPM	0.00307	0.0	0.0	0.0	0.0	0.0	0.0	0.000614	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559546	4242997	DieselExhPM	0.00017	0.0	0.0	0.0	0.0	0.0	0.0	3.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559748	4243531	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559680	4242925	DieselExhPM	0.00032	0.0	0.0	0.0	0.0	0.0	0.0	6.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559659	4243377	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560067	4242941	DieselExhPM	0.00075	0.0	0.0	0.0	0.0	0.0	0.0	0.00015	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559624	4242916	DieselExhPM	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560162	4242930	DieselExhPM	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559952	4243388	DieselExhPM	0.00917	0.0	0.0	0.0	0.0	0.0	0.0	0.001834	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559788	4243464	DieselExhPM	0.00124	0.0	0.0	0.0	0.0	0.0	0.0	0.000248	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559887	4242902	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559986	4242972	DieselExhPM	0.00134	0.0	0.0	0.0	0.0	0.0	0.0	0.000268	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560217	4242942	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559611	4242985	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559923	4242880	DieselExhPM	0.00072	0.0	0.0	0.0	0.0	0.0	0.0	0.000144	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559689	4243453	DieselExhPM	0.00046	0.0	0.0	0.0	0.0	0.0	0.0	9.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560193	4242880	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559626	4243030	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560001	4242896	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559629	4242918	DieselExhPM	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	4.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559509	4243356	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559816	4243120	DieselExhPM	0.00462	0.0	0.0	0.0	0.0	0.0	0.0	0.000924	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559768	4243350	DieselExhPM	0.00355	0.0	0.0	0.0	0.0	0.0	0.0	0.00071	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559729	4242966	DieselExhPM	0.00055	0.0	0.0	0.0	0.0	0.0	0.0	0.00011	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560282	4242987	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559724	4243553	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559667	4243527	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559763	4243535	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559670	4242924	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559775	4243456	DieselExhPM	0.00112	0.0	0.0	0.0	0.0	0.0	0.0	0.000224	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559632	4243356	DieselExhPM	0.00093	0.0	0.0	0.0	0.0	0.0	0.0	0.000186	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560250	4242850	DieselExhPM	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	4.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559740	4243109	DieselExhPM	0.00181	0.0	0.0	0.0	0.0	0.0	0.0	0.000362	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560006	4243222	DieselExhPM	0.02135	0.0	0.0	0.0	0.0	0.0	0.0	0.00427	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559834	4242861	DieselExhPM	0.00058	0.0	0.0	0.0	0.0	0.0	0.0	0.000116	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559833	4243327	DieselExhPM	0.01134	0.0	0.0	0.0	0.0	0.0	0.0	0.002268	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560270	4242953	DieselExhPM	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	5.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559950	4242965	DieselExhPM	0.00124	0.0	0.0	0.0	0.0	0.0	0.0	0.000248	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560166	4243342	DieselExhPM	0.00285	0.0	0.0	0.0	0.0	0.0	0.0	0.00057	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559966	4243109	DieselExhPM	0.00661	0.0	0.0	0.0	0.0	0.0	0.0	0.001322	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560014	4242929	DieselExhPM	0.00091	0.0	0.0	0.0	0.0	0.0	0.0	0.000182	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559653	4243215	DieselExhPM	0.00292	0.0	0.0	0.0	0.0	0.0	0.0	0.000584	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559683	4243100	DieselExhPM	0.00086	0.0	0.0	0.0	0.0	0.0	0.0	0.000172	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559632	4242989	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559821	4243382	DieselExhPM	0.00445	0.0	0.0	0.0	0.0	0.0	0.0	0.00089	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559699	4243541	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560226	4242853	DieselExhPM	0.00023	0.0	0.0	0.0	0.0	0.0	0.0	4.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559621	4242987	DieselExhPM	0.00024	0.0	0.0	0.0	0.0	0.0	0.0	4.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560024	4243335	DieselExhPM	0.00973	0.0	0.0	0.0	0.0	0.0	0.0	0.001946	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559777	4243408	DieselExhPM	0.00184	0.0	0.0	0.0	0.0	0.0	0.0	0.000368	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560032	4242933	DieselExhPM	0.00088	0.0	0.0	0.0	0.0	0.0	0.0	0.000176	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559486	4243330	DieselExhPM	0.0008	0.0	0.0	0.0	0.0	0.0	0.0	0.00016	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559966	4242889	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560109	4243286	DieselExhPM	0.00535	0.0	0.0	0.0	0.0	0.0	0.0	0.00107	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559670	4242959	DieselExhPM	0.00032	0.0	0.0	0.0	0.0	0.0	0.0	6.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559650	4243392	DieselExhPM	0.00066	0.0	0.0	0.0	0.0	0.0	0.0	0.000132	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559722	4243369	DieselExhPM	0.00127	0.0	0.0	0.0	0.0	0.0	0.0	0.000254	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559479	4243121	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560088	4242945	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559885	4243342	DieselExhPM	0.01073	0.0	0.0	0.0	0.0	0.0	0.0	0.002146	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559544	4243345	DieselExhPM	0.00084	0.0	0.0	0.0	0.0	0.0	0.0	0.000168	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559990	4243248	DieselExhPM	0.02289	0.0	0.0	0.0	0.0	0.0	0.0	0.004578	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559634	4242919	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560236	4243327	DieselExhPM	0.00166	0.0	0.0	0.0	0.0	0.0	0.0	0.000332	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560058	4243223	DieselExhPM	0.01171	0.0	0.0	0.0	0.0	0.0	0.0	0.002342	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559639	4243342	DieselExhPM	0.00111	0.0	0.0	0.0	0.0	0.0	0.0	0.000222	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559624	4243506	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559538	4243021	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559942	4243406	DieselExhPM	0.00724	0.0	0.0	0.0	0.0	0.0	0.0	0.001448	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560078	4243026	DieselExhPM	0.00143	0.0	0.0	0.0	0.0	0.0	0.0	0.000286	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560141	4243295	DieselExhPM	0.00384	0.0	0.0	0.0	0.0	0.0	0.0	0.000768	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559647	4242940	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559923	4242910	DieselExhPM	0.00085	0.0	0.0	0.0	0.0	0.0	0.0	0.00017	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560218	4243101	DieselExhPM	0.00105	0.0	0.0	0.0	0.0	0.0	0.0	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559894	4243441	DieselExhPM	0.0039	0.0	0.0	0.0	0.0	0.0	0.0	0.00078	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559974	4243084	DieselExhPM	0.00466	0.0	0.0	0.0	0.0	0.0	0.0	0.000932	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559588	4243384	DieselExhPM	0.00063	0.0	0.0	0.0	0.0	0.0	0.0	0.000126	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559702	4243232	DieselExhPM	0.00495	0.0	0.0	0.0	0.0	0.0	0.0	0.00099	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559658	4243542	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559816	4242887	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560063	4243047	DieselExhPM	0.00226	0.0	0.0	0.0	0.0	0.0	0.0	0.000452	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559492	4243379	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559551	4243423	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559712	4243048	DieselExhPM	0.00074	0.0	0.0	0.0	0.0	0.0	0.0	0.000148	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559592	4243367	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559664	4242983	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559538	4243419	DieselExhPM	0.00043	0.0	0.0	0.0	0.0	0.0	0.0	8.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560093	4243164	DieselExhPM	0.00756	0.0	0.0	0.0	0.0	0.0	0.0	0.001512	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559758	4243449	DieselExhPM	0.00095	0.0	0.0	0.0	0.0	0.0	0.0	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559970	4242838	DieselExhPM	0.00058	0.0	0.0	0.0	0.0	0.0	0.0	0.000116	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560278	4243094	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559601	4242982	DieselExhPM	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559486	4243398	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559832	4243508	DieselExhPM	0.00141	0.0	0.0	0.0	0.0	0.0	0.0	0.000282	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560122	4243555	DieselExhPM	0.00221	0.0	0.0	0.0	0.0	0.0	0.0	0.000442	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559554	4243018	DieselExhPM	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559917	4243043	DieselExhPM	0.00221	0.0	0.0	0.0	0.0	0.0	0.0	0.000442	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559700	4243107	DieselExhPM	0.00109	0.0	0.0	0.0	0.0	0.0	0.0	0.000218	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560065	4243075	DieselExhPM	0.00352	0.0	0.0	0.0	0.0	0.0	0.0	0.000704	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560100	4243361	DieselExhPM	0.00465	0.0	0.0	0.0	0.0	0.0	0.0	0.00093	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560166	4243422	DieselExhPM	0.00249	0.0	0.0	0.0	0.0	0.0	0.0	0.000498	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559982	4243261	DieselExhPM	0.02355	0.0	0.0	0.0	0.0	0.0	0.0	0.00471	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560115	4243430	DieselExhPM	0.00338	0.0	0.0	0.0	0.0	0.0	0.0	0.000676	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560158	4243039	DieselExhPM	0.00082	0.0	0.0	0.0	0.0	0.0	0.0	0.000164	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560302	4242902	DieselExhPM	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	4.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560268	4243296	DieselExhPM	0.00134	0.0	0.0	0.0	0.0	0.0	0.0	0.000268	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559588	4243431	DieselExhPM	0.00041	0.0	0.0	0.0	0.0	0.0	0.0	8.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560246	4242869	DieselExhPM	0.00023	0.0	0.0	0.0	0.0	0.0	0.0	4.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559632	4242939	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560146	4242842	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559866	4243112	DieselExhPM	0.00518	0.0	0.0	0.0	0.0	0.0	0.0	0.001036	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559900	4243040	DieselExhPM	0.00208	0.0	0.0	0.0	0.0	0.0	0.0	0.000416	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559613	4242914	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559527	4243415	DieselExhPM	0.00044	0.0	0.0	0.0	0.0	0.0	0.0	8.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559649	4243332	DieselExhPM	0.00129	0.0	0.0	0.0	0.0	0.0	0.0	0.000258	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559537	4243123	DieselExhPM	0.00057	0.0	0.0	0.0	0.0	0.0	0.0	0.000114	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559938	4242887	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560179	4243448	DieselExhPM	0.00217	0.0	0.0	0.0	0.0	0.0	0.0	0.000434	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559502	4243149	DieselExhPM	0.00068	0.0	0.0	0.0	0.0	0.0	0.0	0.000136	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559686	4243419	DieselExhPM	0.00059	0.0	0.0	0.0	0.0	0.0	0.0	0.000118	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559560	4243455	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559857	4242865	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560173	4243011	DieselExhPM	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.00012	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559847	4243363	DieselExhPM	0.00678	0.0	0.0	0.0	0.0	0.0	0.0	0.001356	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559812	4242856	DieselExhPM	0.00054	0.0	0.0	0.0	0.0	0.0	0.0	0.000108	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559866	4243392	DieselExhPM	0.00528	0.0	0.0	0.0	0.0	0.0	0.0	0.001056	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559664	4242901	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559518	4243118	DieselExhPM	0.0005	0.0	0.0	0.0	0.0	0.0	0.0	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559763	4242938	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559800	4243550	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559656	4243319	DieselExhPM	0.00157	0.0	0.0	0.0	0.0	0.0	0.0	0.000314	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559510	4243073	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559543	4243064	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559698	4243315	DieselExhPM	0.00201	0.0	0.0	0.0	0.0	0.0	0.0	0.000402	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560235	4242946	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559671	4242944	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560172	4242844	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559892	4243112	DieselExhPM	0.00564	0.0	0.0	0.0	0.0	0.0	0.0	0.001128	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559481	4243347	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559652	4243300	DieselExhPM	0.00198	0.0	0.0	0.0	0.0	0.0	0.0	0.000396	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559558	4242990	DieselExhPM	0.00017	0.0	0.0	0.0	0.0	0.0	0.0	3.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559924	4243073	DieselExhPM	0.00321	0.0	0.0	0.0	0.0	0.0	0.0	0.000642	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559623	4243482	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560194	4243046	DieselExhPM	0.00073	0.0	0.0	0.0	0.0	0.0	0.0	0.000146	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560131	4243478	DieselExhPM	0.00268	0.0	0.0	0.0	0.0	0.0	0.0	0.000536	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559530	4243229	DieselExhPM	0.00139	0.0	0.0	0.0	0.0	0.0	0.0	0.000278	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560119	4243000	DieselExhPM	0.00077	0.0	0.0	0.0	0.0	0.0	0.0	0.000154	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559521	4243470	DieselExhPM	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	5.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559732	4243352	DieselExhPM	0.00181	0.0	0.0	0.0	0.0	0.0	0.0	0.000362	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560082	4243240	DieselExhPM	0.00815	0.0	0.0	0.0	0.0	0.0	0.0	0.00163	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559772	4243487	DieselExhPM	0.00083	0.0	0.0	0.0	0.0	0.0	0.0	0.000166	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559895	4242877	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559789	4243120	DieselExhPM	0.00374	0.0	0.0	0.0	0.0	0.0	0.0	0.000748	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559573	4243175	DieselExhPM	0.00121	0.0	0.0	0.0	0.0	0.0	0.0	0.000242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560246	4242979	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560068	4242853	DieselExhPM	0.00046	0.0	0.0	0.0	0.0	0.0	0.0	9.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559785	4242851	DieselExhPM	0.00048	0.0	0.0	0.0	0.0	0.0	0.0	9.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559488	4243426	DieselExhPM	0.00038	0.0	0.0	0.0	0.0	0.0	0.0	7.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560027	4243065	DieselExhPM	0.00417	0.0	0.0	0.0	0.0	0.0	0.0	0.000834	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559762	4242876	DieselExhPM	0.00048	0.0	0.0	0.0	0.0	0.0	0.0	9.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559640	4243256	DieselExhPM	0.00288	0.0	0.0	0.0	0.0	0.0	0.0	0.000576	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559625	4242950	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559987	4243422	DieselExhPM	0.00642	0.0	0.0	0.0	0.0	0.0	0.0	0.001284	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559560	4243003	DieselExhPM	0.00018	0.0	0.0	0.0	0.0	0.0	0.0	3.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559739	4243441	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560181	4243221	DieselExhPM	0.00256	0.0	0.0	0.0	0.0	0.0	0.0	0.000512	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560296	4243060	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560244	4243382	DieselExhPM	0.00151	0.0	0.0	0.0	0.0	0.0	0.0	0.000302	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559497	4243157	DieselExhPM	0.00073	0.0	0.0	0.0	0.0	0.0	0.0	0.000146	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559644	4243486	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560176	4243326	DieselExhPM	0.00268	0.0	0.0	0.0	0.0	0.0	0.0	0.000536	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559492	4243165	DieselExhPM	0.00077	0.0	0.0	0.0	0.0	0.0	0.0	0.000154	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560099	4243302	DieselExhPM	0.00567	0.0	0.0	0.0	0.0	0.0	0.0	0.001134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560199	4242938	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560111	4243078	DieselExhPM	0.00205	0.0	0.0	0.0	0.0	0.0	0.0	0.00041	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559901	4243422	DieselExhPM	0.00486	0.0	0.0	0.0	0.0	0.0	0.0	0.000972	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559627	4243370	DieselExhPM	0.0008	0.0	0.0	0.0	0.0	0.0	0.0	0.00016	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560187	4243309	DieselExhPM	0.00249	0.0	0.0	0.0	0.0	0.0	0.0	0.000498	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559620	4243380	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560285	4243301	DieselExhPM	0.0012	0.0	0.0	0.0	0.0	0.0	0.0	0.00024	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559885	4242812	DieselExhPM	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.000104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559903	4242820	DieselExhPM	0.00054	0.0	0.0	0.0	0.0	0.0	0.0	0.000108	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559918	4242825	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559940	4242806	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559971	4242815	DieselExhPM	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.000104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559974	4242798	DieselExhPM	0.00048	0.0	0.0	0.0	0.0	0.0	0.0	9.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560019	4242812	DieselExhPM	0.00046	0.0	0.0	0.0	0.0	0.0	0.0	9.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560039	4242812	DieselExhPM	0.00043	0.0	0.0	0.0	0.0	0.0	0.0	8.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560058	4242818	DieselExhPM	0.00041	0.0	0.0	0.0	0.0	0.0	0.0	8.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560073	4242825	DieselExhPM	0.00039	0.0	0.0	0.0	0.0	0.0	0.0	7.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560103	4242826	DieselExhPM	0.00034	0.0	0.0	0.0	0.0	0.0	0.0	6.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560139	4242819	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560303	4243044	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560310	4243029	DieselExhPM	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560319	4242999	DieselExhPM	0.00032	0.0	0.0	0.0	0.0	0.0	0.0	6.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560320	4242968	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559936	4243481	DieselExhPM	0.00356	0.0	0.0	0.0	0.0	0.0	0.0	0.000712	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559976	4243501	DieselExhPM	0.00353	0.0	0.0	0.0	0.0	0.0	0.0	0.000706	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559993	4243512	DieselExhPM	0.00336	0.0	0.0	0.0	0.0	0.0	0.0	0.000672	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560027	4243524	DieselExhPM	0.00314	0.0	0.0	0.0	0.0	0.0	0.0	0.000628	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559940	4243461	DieselExhPM	0.00427	0.0	0.0	0.0	0.0	0.0	0.0	0.000854	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559936	4243443	DieselExhPM	0.00492	0.0	0.0	0.0	0.0	0.0	0.0	0.000984	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559961	4243443	DieselExhPM	0.00537	0.0	0.0	0.0	0.0	0.0	0.0	0.001074	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560004	4243461	DieselExhPM	0.00471	0.0	0.0	0.0	0.0	0.0	0.0	0.000942	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560042	4243485	DieselExhPM	0.00377	0.0	0.0	0.0	0.0	0.0	0.0	0.000754	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560046	4243462	DieselExhPM	0.0042	0.0	0.0	0.0	0.0	0.0	0.0	0.00084	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560061	4243440	DieselExhPM	0.0044	0.0	0.0	0.0	0.0	0.0	0.0	0.00088	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560022	4243579	DieselExhPM	0.00233	0.0	0.0	0.0	0.0	0.0	0.0	0.000466	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560039	4243593	DieselExhPM	0.0022	0.0	0.0	0.0	0.0	0.0	0.0	0.00044	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560052	4243600	DieselExhPM	0.00212	0.0	0.0	0.0	0.0	0.0	0.0	0.000424	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559754	4243137	DieselExhPM	0.00325	0.0	0.0	0.0	0.0	0.0	0.0	0.00065	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560125	4243225	DieselExhPM	0.00482	0.0	0.0	0.0	0.0	0.0	0.0	0.000964	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560225	4243225	DieselExhPM	0.00173	0.0	0.0	0.0	0.0	0.0	0.0	0.000346	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560275	4243225	DieselExhPM	0.00121	0.0	0.0	0.0	0.0	0.0	0.0	0.000242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560325	4243225	DieselExhPM	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.00018	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560325	4243275	DieselExhPM	0.00094	0.0	0.0	0.0	0.0	0.0	0.0	0.000188	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560125	4243175	DieselExhPM	0.00442	0.0	0.0	0.0	0.0	0.0	0.0	0.000884	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560175	4243175	DieselExhPM	0.00237	0.0	0.0	0.0	0.0	0.0	0.0	0.000474	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560225	4243175	DieselExhPM	0.00152	0.0	0.0	0.0	0.0	0.0	0.0	0.000304	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560275	4243175	DieselExhPM	0.00108	0.0	0.0	0.0	0.0	0.0	0.0	0.000216	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560325	4243175	DieselExhPM	0.00081	0.0	0.0	0.0	0.0	0.0	0.0	0.000162	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560325	4243125	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560375	4243075	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560125	4243225	DieselExhPM	0.00482	0.0	0.0	0.0	0.0	0.0	0.0	0.000964	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559782	4242995	DieselExhPM	0.00095	0.0	0.0	0.0	0.0	0.0	0.0	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559849	4243560	DieselExhPM	0.00114	0.0	0.0	0.0	0.0	0.0	0.0	0.000228	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559884	4243576	DieselExhPM	0.00134	0.0	0.0	0.0	0.0	0.0	0.0	0.000268	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559927	4243592	DieselExhPM	0.00161	0.0	0.0	0.0	0.0	0.0	0.0	0.000322	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559959	4243608	DieselExhPM	0.00171	0.0	0.0	0.0	0.0	0.0	0.0	0.000342	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559979	4243585	DieselExhPM	0.00209	0.0	0.0	0.0	0.0	0.0	0.0	0.000418	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559939	4243563	DieselExhPM	0.00204	0.0	0.0	0.0	0.0	0.0	0.0	0.000408	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559894	4243553	DieselExhPM	0.00168	0.0	0.0	0.0	0.0	0.0	0.0	0.000336	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559864	4243537	DieselExhPM	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560029	4243480	DieselExhPM	0.00401	0.0	0.0	0.0	0.0	0.0	0.0	0.000802	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559786	4243494	DieselExhPM	0.00095	0.0	0.0	0.0	0.0	0.0	0.0	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559571	4243381	DieselExhPM	0.00063	0.0	0.0	0.0	0.0	0.0	0.0	0.000126	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559566	4242976	DieselExhPM	0.00016	0.0	0.0	0.0	0.0	0.0	0.0	3.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559511	4243435	DieselExhPM	0.00036	0.0	0.0	0.0	0.0	0.0	0.0	7.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560032	4242845	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559795	4243066	DieselExhPM	0.00193	0.0	0.0	0.0	0.0	0.0	0.0	0.000386	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559722	4243434	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559659	4242922	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559877	4242874	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559575	4243020	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559743	4243333	DieselExhPM	0.00292	0.0	0.0	0.0	0.0	0.0	0.0	0.000584	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559679	4242837	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559869	4242899	DieselExhPM	0.00075	0.0	0.0	0.0	0.0	0.0	0.0	0.00015	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560007	4243008	DieselExhPM	0.00191	0.0	0.0	0.0	0.0	0.0	0.0	0.000382	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560067	4243502	DieselExhPM	0.00324	0.0	0.0	0.0	0.0	0.0	0.0	0.000648	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559837	4243383	DieselExhPM	0.00497	0.0	0.0	0.0	0.0	0.0	0.0	0.000994	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560083	4243005	DieselExhPM	0.00109	0.0	0.0	0.0	0.0	0.0	0.0	0.000218	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560022	4242979	DieselExhPM	0.00135	0.0	0.0	0.0	0.0	0.0	0.0	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560055	4242907	DieselExhPM	0.00065	0.0	0.0	0.0	0.0	0.0	0.0	0.00013	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559617	4243316	DieselExhPM	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560009	4243389	DieselExhPM	0.00766	0.0	0.0	0.0	0.0	0.0	0.0	0.001532	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560034	4243262	DieselExhPM	0.01323	0.0	0.0	0.0	0.0	0.0	0.0	0.002646	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560206	4243383	DieselExhPM	0.00198	0.0	0.0	0.0	0.0	0.0	0.0	0.000396	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559831	4242864	DieselExhPM	0.00059	0.0	0.0	0.0	0.0	0.0	0.0	0.000118	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560156	4242960	DieselExhPM	0.00048	0.0	0.0	0.0	0.0	0.0	0.0	9.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560002	4243314	DieselExhPM	0.01389	0.0	0.0	0.0	0.0	0.0	0.0	0.002778	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559504	4243463	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560143	4243459	DieselExhPM	0.00264	0.0	0.0	0.0	0.0	0.0	0.0	0.000528	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559680	4242898	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560230	4243054	DieselExhPM	0.00065	0.0	0.0	0.0	0.0	0.0	0.0	0.00013	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560120	4243497	DieselExhPM	0.00268	0.0	0.0	0.0	0.0	0.0	0.0	0.000536	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559805	4243413	DieselExhPM	0.00257	0.0	0.0	0.0	0.0	0.0	0.0	0.000514	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560112	4243546	DieselExhPM	0.00235	0.0	0.0	0.0	0.0	0.0	0.0	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559862	4243464	DieselExhPM	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560236	4243399	DieselExhPM	0.00158	0.0	0.0	0.0	0.0	0.0	0.0	0.000316	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559643	4243093	DieselExhPM	0.00059	0.0	0.0	0.0	0.0	0.0	0.0	0.000118	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559745	4242872	DieselExhPM	0.00043	0.0	0.0	0.0	0.0	0.0	0.0	8.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560208	4242849	DieselExhPM	0.00024	0.0	0.0	0.0	0.0	0.0	0.0	4.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560110	4243344	DieselExhPM	0.0045	0.0	0.0	0.0	0.0	0.0	0.0	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559567	4243075	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559733	4242944	DieselExhPM	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.000104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560022	4243196	DieselExhPM	0.01945	0.0	0.0	0.0	0.0	0.0	0.0	0.00389	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560237	4243105	DieselExhPM	0.00096	0.0	0.0	0.0	0.0	0.0	0.0	0.000192	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559582	4243444	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559760	4243309	DieselExhPM	0.00652	0.0	0.0	0.0	0.0	0.0	0.0	0.001304	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559860	4243332	DieselExhPM	0.01052	0.0	0.0	0.0	0.0	0.0	0.0	0.002104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559538	4243477	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559527	4243344	DieselExhPM	0.00081	0.0	0.0	0.0	0.0	0.0	0.0	0.000162	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559565	4243357	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560060	4242993	DieselExhPM	0.00121	0.0	0.0	0.0	0.0	0.0	0.0	0.000242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559704	4243427	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559722	4243108	DieselExhPM	0.00142	0.0	0.0	0.0	0.0	0.0	0.0	0.000284	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559585	4243295	DieselExhPM	0.00153	0.0	0.0	0.0	0.0	0.0	0.0	0.000306	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559941	4242914	DieselExhPM	0.00088	0.0	0.0	0.0	0.0	0.0	0.0	0.000176	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559554	4243238	DieselExhPM	0.00161	0.0	0.0	0.0	0.0	0.0	0.0	0.000322	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559618	4242915	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559988	4243059	DieselExhPM	0.00344	0.0	0.0	0.0	0.0	0.0	0.0	0.000688	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559666	4243196	DieselExhPM	0.00279	0.0	0.0	0.0	0.0	0.0	0.0	0.000558	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559984	4242997	DieselExhPM	0.00167	0.0	0.0	0.0	0.0	0.0	0.0	0.000334	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559742	4243384	DieselExhPM	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559798	4242883	DieselExhPM	0.00057	0.0	0.0	0.0	0.0	0.0	0.0	0.000114	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560104	4242860	DieselExhPM	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559607	4243464	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559712	4243384	DieselExhPM	0.00097	0.0	0.0	0.0	0.0	0.0	0.0	0.000194	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560176	4243043	DieselExhPM	0.00077	0.0	0.0	0.0	0.0	0.0	0.0	0.000154	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560244	4243026	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559851	4243500	DieselExhPM	0.00179	0.0	0.0	0.0	0.0	0.0	0.0	0.000358	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559733	4243055	DieselExhPM	0.00098	0.0	0.0	0.0	0.0	0.0	0.0	0.000196	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560227	4243023	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559834	4242934	DieselExhPM	0.00083	0.0	0.0	0.0	0.0	0.0	0.0	0.000166	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559630	4243424	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559548	4243401	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559695	4243504	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559601	4243411	DieselExhPM	0.0005	0.0	0.0	0.0	0.0	0.0	0.0	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560139	4242868	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559851	4242895	DieselExhPM	0.00071	0.0	0.0	0.0	0.0	0.0	0.0	0.000142	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560193	4242967	DieselExhPM	0.00041	0.0	0.0	0.0	0.0	0.0	0.0	8.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560151	4243222	DieselExhPM	0.00352	0.0	0.0	0.0	0.0	0.0	0.0	0.000704	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559488	4243456	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560027	4243013	DieselExhPM	0.00191	0.0	0.0	0.0	0.0	0.0	0.0	0.000382	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560249	4243058	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559687	4243326	DieselExhPM	0.00163	0.0	0.0	0.0	0.0	0.0	0.0	0.000326	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560004	4242976	DieselExhPM	0.00137	0.0	0.0	0.0	0.0	0.0	0.0	0.000274	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559731	4243528	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560196	4243350	DieselExhPM	0.00221	0.0	0.0	0.0	0.0	0.0	0.0	0.000442	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559614	4243330	DieselExhPM	0.00119	0.0	0.0	0.0	0.0	0.0	0.0	0.000238	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559514	4243074	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560042	4243032	DieselExhPM	0.00225	0.0	0.0	0.0	0.0	0.0	0.0	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559501	4243433	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559620	4243440	DieselExhPM	0.00041	0.0	0.0	0.0	0.0	0.0	0.0	8.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560010	4243300	DieselExhPM	0.01395	0.0	0.0	0.0	0.0	0.0	0.0	0.00279	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559587	4243080	DieselExhPM	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560211	4242971	DieselExhPM	0.00039	0.0	0.0	0.0	0.0	0.0	0.0	7.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559763	4242840	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559511	4243134	DieselExhPM	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.00012	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560245	4243370	DieselExhPM	0.00152	0.0	0.0	0.0	0.0	0.0	0.0	0.000304	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559578	4242978	DieselExhPM	0.00018	0.0	0.0	0.0	0.0	0.0	0.0	3.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560158	4242872	DieselExhPM	0.00032	0.0	0.0	0.0	0.0	0.0	0.0	6.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559680	4242903	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559970	4243055	DieselExhPM	0.00289	0.0	0.0	0.0	0.0	0.0	0.0	0.000578	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560030	4243183	DieselExhPM	0.01859	0.0	0.0	0.0	0.0	0.0	0.0	0.003718	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559514	4243409	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559535	4243396	DieselExhPM	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.000104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560048	4243297	DieselExhPM	0.00954	0.0	0.0	0.0	0.0	0.0	0.0	0.001908	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560015	4242841	DieselExhPM	0.00053	0.0	0.0	0.0	0.0	0.0	0.0	0.000106	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559814	4243062	DieselExhPM	0.00206	0.0	0.0	0.0	0.0	0.0	0.0	0.000412	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560020	4242900	DieselExhPM	0.00073	0.0	0.0	0.0	0.0	0.0	0.0	0.000146	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559881	4243433	DieselExhPM	0.00386	0.0	0.0	0.0	0.0	0.0	0.0	0.000772	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560147	4243085	DieselExhPM	0.00157	0.0	0.0	0.0	0.0	0.0	0.0	0.000314	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560200	4243097	DieselExhPM	0.00115	0.0	0.0	0.0	0.0	0.0	0.0	0.00023	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559787	4243303	DieselExhPM	0.01163	0.0	0.0	0.0	0.0	0.0	0.0	0.002326	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559640	4243408	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560209	4243019	DieselExhPM	0.00053	0.0	0.0	0.0	0.0	0.0	0.0	0.000106	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560212	4243050	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559655	4243269	DieselExhPM	0.00295	0.0	0.0	0.0	0.0	0.0	0.0	0.00059	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560155	4243007	DieselExhPM	0.00064	0.0	0.0	0.0	0.0	0.0	0.0	0.000128	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559974	4243274	DieselExhPM	0.02396	0.0	0.0	0.0	0.0	0.0	0.0	0.004792	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559966	4243286	DieselExhPM	0.02409	0.0	0.0	0.0	0.0	0.0	0.0	0.004818	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559859	4243487	DieselExhPM	0.0021	0.0	0.0	0.0	0.0	0.0	0.0	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560050	4242849	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559670	4243445	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559781	4243315	DieselExhPM	0.00847	0.0	0.0	0.0	0.0	0.0	0.0	0.001694	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560127	4242923	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559669	4243159	DieselExhPM	0.00181	0.0	0.0	0.0	0.0	0.0	0.0	0.000362	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560183	4243093	DieselExhPM	0.00127	0.0	0.0	0.0	0.0	0.0	0.0	0.000254	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560130	4243312	DieselExhPM	0.0041	0.0	0.0	0.0	0.0	0.0	0.0	0.00082	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559667	4242971	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559545	4243369	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559944	4242999	DieselExhPM	0.00156	0.0	0.0	0.0	0.0	0.0	0.0	0.000312	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560073	4242911	DieselExhPM	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.00012	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560154	4243440	DieselExhPM	0.00259	0.0	0.0	0.0	0.0	0.0	0.0	0.000518	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560264	4243434	DieselExhPM	0.00128	0.0	0.0	0.0	0.0	0.0	0.0	0.000256	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559874	4243472	DieselExhPM	0.00265	0.0	0.0	0.0	0.0	0.0	0.0	0.00053	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560127	4243411	DieselExhPM	0.00332	0.0	0.0	0.0	0.0	0.0	0.0	0.000664	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560192	4243477	DieselExhPM	0.00191	0.0	0.0	0.0	0.0	0.0	0.0	0.000382	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560264	4243031	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559576	4243459	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559885	4243337	DieselExhPM	0.01165	0.0	0.0	0.0	0.0	0.0	0.0	0.00233	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559547	4243449	DieselExhPM	0.00034	0.0	0.0	0.0	0.0	0.0	0.0	6.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560233	4243285	DieselExhPM	0.00172	0.0	0.0	0.0	0.0	0.0	0.0	0.000344	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559681	4243221	DieselExhPM	0.00389	0.0	0.0	0.0	0.0	0.0	0.0	0.000778	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560060	4243278	DieselExhPM	0.00919	0.0	0.0	0.0	0.0	0.0	0.0	0.001838	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559759	4243481	DieselExhPM	0.00075	0.0	0.0	0.0	0.0	0.0	0.0	0.00015	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559723	4243468	DieselExhPM	0.00054	0.0	0.0	0.0	0.0	0.0	0.0	0.000108	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559804	4242928	DieselExhPM	0.00072	0.0	0.0	0.0	0.0	0.0	0.0	0.000144	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559669	4243362	DieselExhPM	0.00097	0.0	0.0	0.0	0.0	0.0	0.0	0.000194	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559838	4243423	DieselExhPM	0.00319	0.0	0.0	0.0	0.0	0.0	0.0	0.000638	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559481	4243378	DieselExhPM	0.00055	0.0	0.0	0.0	0.0	0.0	0.0	0.00011	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560086	4243333	DieselExhPM	0.00574	0.0	0.0	0.0	0.0	0.0	0.0	0.001148	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560123	4243031	DieselExhPM	0.00097	0.0	0.0	0.0	0.0	0.0	0.0	0.000194	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559909	4242991	DieselExhPM	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559635	4243296	DieselExhPM	0.00193	0.0	0.0	0.0	0.0	0.0	0.0	0.000386	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560083	4243183	DieselExhPM	0.00914	0.0	0.0	0.0	0.0	0.0	0.0	0.001828	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560026	4243274	DieselExhPM	0.01356	0.0	0.0	0.0	0.0	0.0	0.0	0.002712	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559764	4243115	DieselExhPM	0.00267	0.0	0.0	0.0	0.0	0.0	0.0	0.000534	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560229	4242975	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559659	4242942	DieselExhPM	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	5.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559653	4243155	DieselExhPM	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560180	4242934	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559919	4243112	DieselExhPM	0.00611	0.0	0.0	0.0	0.0	0.0	0.0	0.001222	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559562	4243407	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560066	4243258	DieselExhPM	0.00927	0.0	0.0	0.0	0.0	0.0	0.0	0.001854	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560104	4243028	DieselExhPM	0.00111	0.0	0.0	0.0	0.0	0.0	0.0	0.000222	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559715	4243508	DieselExhPM	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560287	4243076	DieselExhPM	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.00012	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559594	4242939	DieselExhPM	0.00017	0.0	0.0	0.0	0.0	0.0	0.0	3.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560137	4243004	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560017	4243374	DieselExhPM	0.00807	0.0	0.0	0.0	0.0	0.0	0.0	0.001614	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559852	4243427	DieselExhPM	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.00068	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560211	4242883	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560064	4243350	DieselExhPM	0.00645	0.0	0.0	0.0	0.0	0.0	0.0	0.00129	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560175	4242876	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559572	4243408	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560290	4242866	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560191	4243015	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560042	4243249	DieselExhPM	0.01278	0.0	0.0	0.0	0.0	0.0	0.0	0.002556	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560172	4243502	DieselExhPM	0.00204	0.0	0.0	0.0	0.0	0.0	0.0	0.000408	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560036	4243316	DieselExhPM	0.00973	0.0	0.0	0.0	0.0	0.0	0.0	0.001946	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559534	4243443	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559611	4243173	DieselExhPM	0.00146	0.0	0.0	0.0	0.0	0.0	0.0	0.000292	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559590	4242980	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559483	4243212	DieselExhPM	0.00104	0.0	0.0	0.0	0.0	0.0	0.0	0.000208	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560019	4243286	DieselExhPM	0.0138	0.0	0.0	0.0	0.0	0.0	0.0	0.00276	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559668	4243039	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560094	4243465	DieselExhPM	0.00338	0.0	0.0	0.0	0.0	0.0	0.0	0.000676	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560165	4243089	DieselExhPM	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560069	4243193	DieselExhPM	0.01107	0.0	0.0	0.0	0.0	0.0	0.0	0.002214	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560264	4243362	DieselExhPM	0.00134	0.0	0.0	0.0	0.0	0.0	0.0	0.000268	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560264	4242983	DieselExhPM	0.00034	0.0	0.0	0.0	0.0	0.0	0.0	6.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560271	4243330	DieselExhPM	0.00131	0.0	0.0	0.0	0.0	0.0	0.0	0.000262	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560129	4243080	DieselExhPM	0.00176	0.0	0.0	0.0	0.0	0.0	0.0	0.000352	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560165	4243526	DieselExhPM	0.002	0.0	0.0	0.0	0.0	0.0	0.0	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560004	4243066	DieselExhPM	0.00423	0.0	0.0	0.0	0.0	0.0	0.0	0.000846	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559679	4243501	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559530	4243123	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560146	4243374	DieselExhPM	0.00315	0.0	0.0	0.0	0.0	0.0	0.0	0.00063	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559520	4243076	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559595	4243423	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559995	4242925	DieselExhPM	0.00093	0.0	0.0	0.0	0.0	0.0	0.0	0.000186	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560074	4243557	DieselExhPM	0.0025	0.0	0.0	0.0	0.0	0.0	0.0	0.0005	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559718	4243283	DieselExhPM	0.00395	0.0	0.0	0.0	0.0	0.0	0.0	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559653	4242995	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559999	4243405	DieselExhPM	0.00709	0.0	0.0	0.0	0.0	0.0	0.0	0.001418	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560108	4243515	DieselExhPM	0.00266	0.0	0.0	0.0	0.0	0.0	0.0	0.000532	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559993	4243328	DieselExhPM	0.01362	0.0	0.0	0.0	0.0	0.0	0.0	0.002724	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559935	4243047	DieselExhPM	0.00236	0.0	0.0	0.0	0.0	0.0	0.0	0.000472	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559811	4243484	DieselExhPM	0.00138	0.0	0.0	0.0	0.0	0.0	0.0	0.000276	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559846	4243520	DieselExhPM	0.00146	0.0	0.0	0.0	0.0	0.0	0.0	0.000292	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559622	4243303	DieselExhPM	0.00166	0.0	0.0	0.0	0.0	0.0	0.0	0.000332	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560065	4243209	DieselExhPM	0.01132	0.0	0.0	0.0	0.0	0.0	0.0	0.002264	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560139	4242956	DieselExhPM	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.000104	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559560	4243141	DieselExhPM	0.00078	0.0	0.0	0.0	0.0	0.0	0.0	0.000156	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559706	4243460	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559789	4243546	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559732	4243210	DieselExhPM	0.00648	0.0	0.0	0.0	0.0	0.0	0.0	0.001296	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559860	4243273	DieselExhPM	0.02145	0.0	0.0	0.0	0.0	0.0	0.0	0.00429	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559847	4242968	DieselExhPM	0.00105	0.0	0.0	0.0	0.0	0.0	0.0	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559874	4242873	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560040	4242983	DieselExhPM	0.00128	0.0	0.0	0.0	0.0	0.0	0.0	0.000256	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559506	4243222	DieselExhPM	0.00121	0.0	0.0	0.0	0.0	0.0	0.0	0.000242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559666	4243304	DieselExhPM	0.00199	0.0	0.0	0.0	0.0	0.0	0.0	0.000398	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559761	4243391	DieselExhPM	0.00173	0.0	0.0	0.0	0.0	0.0	0.0	0.000346	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559950	4243314	DieselExhPM	0.02266	0.0	0.0	0.0	0.0	0.0	0.0	0.004532	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559844	4243067	DieselExhPM	0.00252	0.0	0.0	0.0	0.0	0.0	0.0	0.000504	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559606	4243085	DieselExhPM	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	9e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560037	4242904	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559797	4243425	DieselExhPM	0.00204	0.0	0.0	0.0	0.0	0.0	0.0	0.000408	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559694	4243047	DieselExhPM	0.00061	0.0	0.0	0.0	0.0	0.0	0.0	0.000122	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559494	4243351	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560091	4242915	DieselExhPM	0.00055	0.0	0.0	0.0	0.0	0.0	0.0	0.00011	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559780	4242879	DieselExhPM	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.000104	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560263	4243103	DieselExhPM	0.00081	0.0	0.0	0.0	0.0	0.0	0.0	0.000162	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560127	4243248	DieselExhPM	0.00471	0.0	0.0	0.0	0.0	0.0	0.0	0.000942	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559603	4243018	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559945	4242884	DieselExhPM	0.00075	0.0	0.0	0.0	0.0	0.0	0.0	0.00015	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559881	4243396	DieselExhPM	0.00549	0.0	0.0	0.0	0.0	0.0	0.0	0.001098	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560103	4242948	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559926	4242995	DieselExhPM	0.00147	0.0	0.0	0.0	0.0	0.0	0.0	0.000294	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559879	4243067	DieselExhPM	0.00279	0.0	0.0	0.0	0.0	0.0	0.0	0.000558	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560141	4243035	DieselExhPM	0.00089	0.0	0.0	0.0	0.0	0.0	0.0	0.000178	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559575	4243359	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559662	4243098	DieselExhPM	0.00071	0.0	0.0	0.0	0.0	0.0	0.0	0.000142	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560121	4242864	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559641	4242992	DieselExhPM	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	5.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559905	4242906	DieselExhPM	0.00082	0.0	0.0	0.0	0.0	0.0	0.0	0.000164	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559602	4243186	DieselExhPM	0.00161	0.0	0.0	0.0	0.0	0.0	0.0	0.000322	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559558	4243376	DieselExhPM	0.00065	0.0	0.0	0.0	0.0	0.0	0.0	0.00013	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559540	4243070	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559595	4243157	DieselExhPM	0.0011	0.0	0.0	0.0	0.0	0.0	0.0	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559607	4243400	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560201	4243286	DieselExhPM	0.00223	0.0	0.0	0.0	0.0	0.0	0.0	0.000446	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559610	4242913	DieselExhPM	0.00018	0.0	0.0	0.0	0.0	0.0	0.0	3.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559613	4243392	DieselExhPM	0.00061	0.0	0.0	0.0	0.0	0.0	0.0	0.000122	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559967	4243412	DieselExhPM	0.00713	0.0	0.0	0.0	0.0	0.0	0.0	0.001426	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559489	4243172	DieselExhPM	0.00081	0.0	0.0	0.0	0.0	0.0	0.0	0.000162	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560094	4243083	DieselExhPM	0.00277	0.0	0.0	0.0	0.0	0.0	0.0	0.000554	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559821	4243473	DieselExhPM	0.00168	0.0	0.0	0.0	0.0	0.0	0.0	0.000336	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559572	4243491	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560213	4243444	DieselExhPM	0.00177	0.0	0.0	0.0	0.0	0.0	0.0	0.000354	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560050	4243236	DieselExhPM	0.01229	0.0	0.0	0.0	0.0	0.0	0.0	0.002458	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560049	4242937	DieselExhPM	0.00082	0.0	0.0	0.0	0.0	0.0	0.0	0.000164	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559653	4242898	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560090	4243542	DieselExhPM	0.00256	0.0	0.0	0.0	0.0	0.0	0.0	0.000512	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559522	4243439	DieselExhPM	0.00036	0.0	0.0	0.0	0.0	0.0	0.0	7.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559589	4243498	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559506	4243141	DieselExhPM	0.00064	0.0	0.0	0.0	0.0	0.0	0.0	0.000128	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559477	4243424	DieselExhPM	0.00038	0.0	0.0	0.0	0.0	0.0	0.0	7.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559631	4243209	DieselExhPM	0.00236	0.0	0.0	0.0	0.0	0.0	0.0	0.000472	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560091	4242858	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559640	4243195	DieselExhPM	0.00223	0.0	0.0	0.0	0.0	0.0	0.0	0.000446	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559621	4242961	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559961	4243374	DieselExhPM	0.01083	0.0	0.0	0.0	0.0	0.0	0.0	0.002166	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559841	4243113	DieselExhPM	0.00472	0.0	0.0	0.0	0.0	0.0	0.0	0.000944	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560121	4242952	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560082	4243478	DieselExhPM	0.00339	0.0	0.0	0.0	0.0	0.0	0.0	0.000678	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559833	4242891	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559550	4243027	DieselExhPM	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	4.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559800	4243501	DieselExhPM	0.00106	0.0	0.0	0.0	0.0	0.0	0.0	0.000212	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559911	4243362	DieselExhPM	0.01047	0.0	0.0	0.0	0.0	0.0	0.0	0.002094	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559899	4243069	DieselExhPM	0.00297	0.0	0.0	0.0	0.0	0.0	0.0	0.000594	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559789	4242850	DieselExhPM	0.00048	0.0	0.0	0.0	0.0	0.0	0.0	9.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560101	4242998	DieselExhPM	0.00088	0.0	0.0	0.0	0.0	0.0	0.0	0.000176	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560014	4243209	DieselExhPM	0.02032	0.0	0.0	0.0	0.0	0.0	0.0	0.004064	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559686	4243164	DieselExhPM	0.00227	0.0	0.0	0.0	0.0	0.0	0.0	0.000454	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559971	4243360	DieselExhPM	0.01212	0.0	0.0	0.0	0.0	0.0	0.0	0.002424	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559879	4242870	DieselExhPM	0.00066	0.0	0.0	0.0	0.0	0.0	0.0	0.000132	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559915	4242958	DieselExhPM	0.00113	0.0	0.0	0.0	0.0	0.0	0.0	0.000226	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560109	4242919	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559742	4243476	DieselExhPM	0.00063	0.0	0.0	0.0	0.0	0.0	0.0	0.000126	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559608	4243346	DieselExhPM	0.00098	0.0	0.0	0.0	0.0	0.0	0.0	0.000196	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559555	4243484	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560228	4242888	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560120	4243328	DieselExhPM	0.00432	0.0	0.0	0.0	0.0	0.0	0.0	0.000864	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559708	4243300	DieselExhPM	0.00272	0.0	0.0	0.0	0.0	0.0	0.0	0.000544	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559624	4243089	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560200	4243266	DieselExhPM	0.00225	0.0	0.0	0.0	0.0	0.0	0.0	0.00045	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559679	4243346	DieselExhPM	0.00122	0.0	0.0	0.0	0.0	0.0	0.0	0.000244	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560190	4242845	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560056	4243523	DieselExhPM	0.00302	0.0	0.0	0.0	0.0	0.0	0.0	0.000604	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559606	4243502	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560175	4242964	DieselExhPM	0.00044	0.0	0.0	0.0	0.0	0.0	0.0	8.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560147	4243517	DieselExhPM	0.00222	0.0	0.0	0.0	0.0	0.0	0.0	0.000444	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560099	4243152	DieselExhPM	0.00642	0.0	0.0	0.0	0.0	0.0	0.0	0.001284	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560253	4243459	DieselExhPM	0.00135	0.0	0.0	0.0	0.0	0.0	0.0	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560038	4243554	DieselExhPM	0.00266	0.0	0.0	0.0	0.0	0.0	0.0	0.000532	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559616	4243156	DieselExhPM	0.00121	0.0	0.0	0.0	0.0	0.0	0.0	0.000242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559755	4243059	DieselExhPM	0.00127	0.0	0.0	0.0	0.0	0.0	0.0	0.000254	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559679	4243270	DieselExhPM	0.00352	0.0	0.0	0.0	0.0	0.0	0.0	0.000704	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559766	4242842	DieselExhPM	0.00043	0.0	0.0	0.0	0.0	0.0	0.0	8.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560045	4243426	DieselExhPM	0.0051	0.0	0.0	0.0	0.0	0.0	0.0	0.00102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559647	4243034	DieselExhPM	0.00037	0.0	0.0	0.0	0.0	0.0	0.0	7.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559563	4243426	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559775	4243062	DieselExhPM	0.00157	0.0	0.0	0.0	0.0	0.0	0.0	0.000314	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559807	4242859	DieselExhPM	0.00053	0.0	0.0	0.0	0.0	0.0	0.0	0.000106	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560286	4243333	DieselExhPM	0.00119	0.0	0.0	0.0	0.0	0.0	0.0	0.000238	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560284	4243450	DieselExhPM	0.00113	0.0	0.0	0.0	0.0	0.0	0.0	0.000226	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560130	4243515	DieselExhPM	0.00242	0.0	0.0	0.0	0.0	0.0	0.0	0.000484	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560146	4243254	DieselExhPM	0.00379	0.0	0.0	0.0	0.0	0.0	0.0	0.000758	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559980	4243015	DieselExhPM	0.00197	0.0	0.0	0.0	0.0	0.0	0.0	0.000394	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559649	4242921	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560251	4243289	DieselExhPM	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560289	4242957	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559932	4242962	DieselExhPM	0.00118	0.0	0.0	0.0	0.0	0.0	0.0	0.000236	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560156	4243358	DieselExhPM	0.003	0.0	0.0	0.0	0.0	0.0	0.0	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560247	4242892	DieselExhPM	0.00024	0.0	0.0	0.0	0.0	0.0	0.0	4.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559775	4243540	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559913	4243406	DieselExhPM	0.00623	0.0	0.0	0.0	0.0	0.0	0.0	0.001246	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559850	4242868	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560144	4242926	DieselExhPM	0.00043	0.0	0.0	0.0	0.0	0.0	0.0	8.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559513	4243341	DieselExhPM	0.0008	0.0	0.0	0.0	0.0	0.0	0.0	0.00016	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559502	4243335	DieselExhPM	0.00081	0.0	0.0	0.0	0.0	0.0	0.0	0.000162	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560252	4243332	DieselExhPM	0.00148	0.0	0.0	0.0	0.0	0.0	0.0	0.000296	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559851	4243387	DieselExhPM	0.00513	0.0	0.0	0.0	0.0	0.0	0.0	0.001026	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559523	4243361	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560283	4242898	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559813	4243321	DieselExhPM	0.01125	0.0	0.0	0.0	0.0	0.0	0.0	0.00225	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559599	4243265	DieselExhPM	0.00204	0.0	0.0	0.0	0.0	0.0	0.0	0.000408	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559960	4242918	DieselExhPM	0.00091	0.0	0.0	0.0	0.0	0.0	0.0	0.000182	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560108	4243134	DieselExhPM	0.00477	0.0	0.0	0.0	0.0	0.0	0.0	0.000954	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559634	4243149	DieselExhPM	0.00122	0.0	0.0	0.0	0.0	0.0	0.0	0.000244	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560104	4243447	DieselExhPM	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.00068	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560252	4242949	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560086	4243320	DieselExhPM	0.00601	0.0	0.0	0.0	0.0	0.0	0.0	0.001202	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560177	4243489	DieselExhPM	0.00204	0.0	0.0	0.0	0.0	0.0	0.0	0.000408	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559594	4243201	DieselExhPM	0.00173	0.0	0.0	0.0	0.0	0.0	0.0	0.000346	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559997	4243327	DieselExhPM	0.01317	0.0	0.0	0.0	0.0	0.0	0.0	0.002634	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559901	4242875	DieselExhPM	0.00069	0.0	0.0	0.0	0.0	0.0	0.0	0.000138	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559998	4243235	DieselExhPM	0.02222	0.0	0.0	0.0	0.0	0.0	0.0	0.004444	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559958	4243299	DieselExhPM	0.0238	0.0	0.0	0.0	0.0	0.0	0.0	0.00476	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559861	4243065	DieselExhPM	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.00052	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560042	4243015	DieselExhPM	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.00036	0.0	0.0	0.0	0.0	0.0	0.0	0.0

560166	4243260	DieselExhPM	0.00307	0.0	0.0	0.0	0.0	0.0	0.0	0.000614	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559546	4242997	DieselExhPM	0.00017	0.0	0.0	0.0	0.0	0.0	0.0	3.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559748	4243531	DieselExhPM	0.00049	0.0	0.0	0.0	0.0	0.0	0.0	9.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559680	4242925	DieselExhPM	0.00032	0.0	0.0	0.0	0.0	0.0	0.0	6.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559659	4243377	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560067	4242941	DieselExhPM	0.00075	0.0	0.0	0.0	0.0	0.0	0.0	0.00015	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559624	4242916	DieselExhPM	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560162	4242930	DieselExhPM	0.0004	0.0	0.0	0.0	0.0	0.0	0.0	8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559952	4243388	DieselExhPM	0.00917	0.0	0.0	0.0	0.0	0.0	0.0	0.001834	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559788	4243464	DieselExhPM	0.00124	0.0	0.0	0.0	0.0	0.0	0.0	0.000248	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559887	4242902	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559986	4242972	DieselExhPM	0.00134	0.0	0.0	0.0	0.0	0.0	0.0	0.000268	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560217	4242942	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559611	4242985	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559923	4242880	DieselExhPM	0.00072	0.0	0.0	0.0	0.0	0.0	0.0	0.000144	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559689	4243453	DieselExhPM	0.00046	0.0	0.0	0.0	0.0	0.0	0.0	9.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560193	4242880	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559626	4243030	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560001	4242896	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559629	4242918	DieselExhPM	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	4.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559509	4243356	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559816	4243120	DieselExhPM	0.00462	0.0	0.0	0.0	0.0	0.0	0.0	0.000924	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559768	4243350	DieselExhPM	0.00355	0.0	0.0	0.0	0.0	0.0	0.0	0.00071	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559729	4242966	DieselExhPM	0.00055	0.0	0.0	0.0	0.0	0.0	0.0	0.00011	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560282	4242987	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559724	4243553	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559667	4243527	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559763	4243535	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559670	4242924	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559775	4243456	DieselExhPM	0.00112	0.0	0.0	0.0	0.0	0.0	0.0	0.000224	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559632	4243356	DieselExhPM	0.00093	0.0	0.0	0.0	0.0	0.0	0.0	0.000186	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560250	4242850	DieselExhPM	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	4.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559740	4243109	DieselExhPM	0.00181	0.0	0.0	0.0	0.0	0.0	0.0	0.000362	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560006	4243222	DieselExhPM	0.02135	0.0	0.0	0.0	0.0	0.0	0.0	0.00427	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559834	4242861	DieselExhPM	0.00058	0.0	0.0	0.0	0.0	0.0	0.0	0.000116	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559833	4243327	DieselExhPM	0.01134	0.0	0.0	0.0	0.0	0.0	0.0	0.002268	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560270	4242953	DieselExhPM	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	5.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559950	4242965	DieselExhPM	0.00124	0.0	0.0	0.0	0.0	0.0	0.0	0.000248	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560166	4243342	DieselExhPM	0.00285	0.0	0.0	0.0	0.0	0.0	0.0	0.00057	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559966	4243109	DieselExhPM	0.00661	0.0	0.0	0.0	0.0	0.0	0.0	0.001322	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560014	4242929	DieselExhPM	0.00091	0.0	0.0	0.0	0.0	0.0	0.0	0.000182	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559653	4243215	DieselExhPM	0.00292	0.0	0.0	0.0	0.0	0.0	0.0	0.000584	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559683	4243100	DieselExhPM	0.00086	0.0	0.0	0.0	0.0	0.0	0.0	0.000172	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559632	4242989	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559821	4243382	DieselExhPM	0.00445	0.0	0.0	0.0	0.0	0.0	0.0	0.00089	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559699	4243541	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560226	4242853	DieselExhPM	0.00023	0.0	0.0	0.0	0.0	0.0	0.0	4.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559621	4242987	DieselExhPM	0.00024	0.0	0.0	0.0	0.0	0.0	0.0	4.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560024	4243335	DieselExhPM	0.00973	0.0	0.0	0.0	0.0	0.0	0.0	0.001946	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559777	4243408	DieselExhPM	0.00184	0.0	0.0	0.0	0.0	0.0	0.0	0.000368	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560032	4242933	DieselExhPM	0.00088	0.0	0.0	0.0	0.0	0.0	0.0	0.000176	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559486	4243330	DieselExhPM	0.0008	0.0	0.0	0.0	0.0	0.0	0.0	0.00016	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559966	4242889	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560109	4243286	DieselExhPM	0.00535	0.0	0.0	0.0	0.0	0.0	0.0	0.00107	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559670	4242959	DieselExhPM	0.00032	0.0	0.0	0.0	0.0	0.0	0.0	6.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559650	4243392	DieselExhPM	0.00066	0.0	0.0	0.0	0.0	0.0	0.0	0.000132	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559722	4243369	DieselExhPM	0.00127	0.0	0.0	0.0	0.0	0.0	0.0	0.000254	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559479	4243121	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560088	4242945	DieselExhPM	0.00067	0.0	0.0	0.0	0.0	0.0	0.0	0.000134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559885	4243342	DieselExhPM	0.01073	0.0	0.0	0.0	0.0	0.0	0.0	0.002146	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559544	4243345	DieselExhPM	0.00084	0.0	0.0	0.0	0.0	0.0	0.0	0.000168	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559990	4243248	DieselExhPM	0.02289	0.0	0.0	0.0	0.0	0.0	0.0	0.004578	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559634	4242919	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560236	4243327	DieselExhPM	0.00166	0.0	0.0	0.0	0.0	0.0	0.0	0.000332	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560058	4243223	DieselExhPM	0.01171	0.0	0.0	0.0	0.0	0.0	0.0	0.002342	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559639	4243342	DieselExhPM	0.00111	0.0	0.0	0.0	0.0	0.0	0.0	0.000222	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559624	4243506	DieselExhPM	0.00026	0.0	0.0	0.0	0.0	0.0	0.0	5.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559918	4242883	DieselExhPM	0.00073	0.0	0.0	0.0	0.0	0.0	0.0	0.000146	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559538	4243021	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559942	4243406	DieselExhPM	0.00724	0.0	0.0	0.0	0.0	0.0	0.0	0.001448	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560078	4243026	DieselExhPM	0.00143	0.0	0.0	0.0	0.0	0.0	0.0	0.000286	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560141	4243295	DieselExhPM	0.00384	0.0	0.0	0.0	0.0	0.0	0.0	0.000768	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559647	4242940	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559923	4242910	DieselExhPM	0.00085	0.0	0.0	0.0	0.0	0.0	0.0	0.00017	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560218	4243101	DieselExhPM	0.00105	0.0	0.0	0.0	0.0	0.0	0.0	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559894	4243441	DieselExhPM	0.0039	0.0	0.0	0.0	0.0	0.0	0.0	0.00078	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559974	4243084	DieselExhPM	0.00466	0.0	0.0	0.0	0.0	0.0	0.0	0.000932	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559588	4243384	DieselExhPM	0.00063	0.0	0.0	0.0	0.0	0.0	0.0	0.000126	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559702	4243232	DieselExhPM	0.00495	0.0	0.0	0.0	0.0	0.0	0.0	0.00099	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559658	4243542	DieselExhPM	0.00025	0.0	0.0	0.0	0.0	0.0	0.0	5e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559816	4242887	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560063	4243047	DieselExhPM	0.00226	0.0	0.0	0.0	0.0	0.0	0.0	0.000452	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559492	4243379	DieselExhPM	0.00056	0.0	0.0	0.0	0.0	0.0	0.0	0.000112	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559551	4243423	DieselExhPM	0.00042	0.0	0.0	0.0	0.0	0.0	0.0	8.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559712	4243048	DieselExhPM	0.00074	0.0	0.0	0.0	0.0	0.0	0.0	0.000148	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559592	4243367	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559664	4242983	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559538	4243419	DieselExhPM	0.00043	0.0	0.0	0.0	0.0	0.0	0.0	8.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560093	4243164	DieselExhPM	0.00756	0.0	0.0	0.0	0.0	0.0	0.0	0.001512	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559728	4242950	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559758	4243449	DieselExhPM	0.00095	0.0	0.0	0.0	0.0	0.0	0.0	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559970	4242838	DieselExhPM	0.00058	0.0	0.0	0.0	0.0	0.0	0.0	0.000116	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560278	4243094	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559601	4242982	DieselExhPM	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559486	4243398	DieselExhPM	0.00047	0.0	0.0	0.0	0.0	0.0	0.0	9.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559832	4243508	DieselExhPM	0.00141	0.0	0.0	0.0	0.0	0.0	0.0	0.000282	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560122	4243555	DieselExhPM	0.00221	0.0	0.0	0.0	0.0	0.0	0.0	0.000442	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559554	4243018	DieselExhPM	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559917	4243043	DieselExhPM	0.00221	0.0	0.0	0.0	0.0	0.0	0.0	0.000442	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559700	4243107	DieselExhPM	0.00109	0.0	0.0	0.0	0.0	0.0	0.0	0.000218	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560065	4243075	DieselExhPM	0.00352	0.0	0.0	0.0	0.0	0.0	0.0	0.000704	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560100	4243361	DieselExhPM	0.00465	0.0	0.0	0.0	0.0	0.0	0.0	0.00093	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560166	4243422	DieselExhPM	0.00249	0.0	0.0	0.0	0.0	0.0	0.0	0.000498	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559982	4243261	DieselExhPM	0.02355	0.0	0.0	0.0	0.0	0.0	0.0	0.00471	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560115	4243430	DieselExhPM	0.00338	0.0	0.0	0.0	0.0	0.0	0.0	0.000676	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560158	4243039	DieselExhPM	0.00082	0.0	0.0	0.0	0.0	0.0	0.0	0.000164	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560302	4242902	DieselExhPM	0.00021	0.0	0.0	0.0	0.0	0.0	0.0	4.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560268	4243296	DieselExhPM	0.00134	0.0	0.0	0.0	0.0	0.0	0.0	0.000268	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559588	4243431	DieselExhPM	0.00041	0.0	0.0	0.0	0.0	0.0	0.0	8.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560246	4242869	DieselExhPM	0.00023	0.0	0.0	0.0	0.0	0.0	0.0	4.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559632	4242939	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560146	4242842	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559866	4243112	DieselExhPM	0.00518	0.0	0.0	0.0	0.0	0.0	0.0	0.001036	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559900	4243040	DieselExhPM	0.00208	0.0	0.0	0.0	0.0	0.0	0.0	0.000416	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559613	4242914	DieselExhPM	0.00019	0.0	0.0	0.0	0.0	0.0	0.0	3.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559527	4243415	DieselExhPM	0.00044	0.0	0.0	0.0	0.0	0.0	0.0	8.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559649	4243332	DieselExhPM	0.00129	0.0	0.0	0.0	0.0	0.0	0.0	0.000258	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559537	4243123	DieselExhPM	0.00057	0.0	0.0	0.0	0.0	0.0	0.0	0.000114	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559938	4242887	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560179	4243448	DieselExhPM	0.00217	0.0	0.0	0.0	0.0	0.0	0.0	0.000434	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559502	4243149	DieselExhPM	0.00068	0.0	0.0	0.0	0.0	0.0	0.0	0.000136	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559686	4243419	DieselExhPM	0.00059	0.0	0.0	0.0	0.0	0.0	0.0	0.000118	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559560	4243455	DieselExhPM	0.00033	0.0	0.0	0.0	0.0	0.0	0.0	6.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559857	4242865	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560173	4243011	DieselExhPM	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.00012	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559847	4243363	DieselExhPM	0.00678	0.0	0.0	0.0	0.0	0.0	0.0	0.001356	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559812	4242856	DieselExhPM	0.00054	0.0	0.0	0.0	0.0	0.0	0.0	0.000108	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559866	4243392	DieselExhPM	0.00528	0.0	0.0	0.0	0.0	0.0	0.0	0.001056	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559664	4242901	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559518	4243118	DieselExhPM	0.0005	0.0	0.0	0.0	0.0	0.0	0.0	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559763	4242938	DieselExhPM	0.00062	0.0	0.0	0.0	0.0	0.0	0.0	0.000124	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559800	4243550	DieselExhPM	0.00076	0.0	0.0	0.0	0.0	0.0	0.0	0.000152	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559656	4243319	DieselExhPM	0.00157	0.0	0.0	0.0	0.0	0.0	0.0	0.000314	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559510	4243073	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559543	4243064	DieselExhPM	0.00029	0.0	0.0	0.0	0.0	0.0	0.0	5.8e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559698	4243315	DieselExhPM	0.00201	0.0	0.0	0.0	0.0	0.0	0.0	0.000402	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560235	4242946	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559671	4242944	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560172	4242844	DieselExhPM	0.00027	0.0	0.0	0.0	0.0	0.0	0.0	5.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559892	4243112	DieselExhPM	0.00564	0.0	0.0	0.0	0.0	0.0	0.0	0.001128	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559481	4243347	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559652	4243300	DieselExhPM	0.00198	0.0	0.0	0.0	0.0	0.0	0.0	0.000396	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559558	4242990	DieselExhPM	0.00017	0.0	0.0	0.0	0.0	0.0	0.0	3.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559924	4243073	DieselExhPM	0.00321	0.0	0.0	0.0	0.0	0.0	0.0	0.000642	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559623	4243482	DieselExhPM	0.0003	0.0	0.0	0.0	0.0	0.0	0.0	6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560194	4243046	DieselExhPM	0.00073	0.0	0.0	0.0	0.0	0.0	0.0	0.000146	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560131	4243478	DieselExhPM	0.00268	0.0	0.0	0.0	0.0	0.0	0.0	0.000536	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559530	4243229	DieselExhPM	0.00139	0.0	0.0	0.0	0.0	0.0	0.0	0.000278	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560119	4243000	DieselExhPM	0.00077	0.0	0.0	0.0	0.0	0.0	0.0	0.000154	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559521	4243470	DieselExhPM	0.00028	0.0	0.0	0.0	0.0	0.0	0.0	5.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559732	4243352	DieselExhPM	0.00181	0.0	0.0	0.0	0.0	0.0	0.0	0.000362	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560082	4243240	DieselExhPM	0.00815	0.0	0.0	0.0	0.0	0.0	0.0	0.00163	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559772	4243487	DieselExhPM	0.00083	0.0	0.0	0.0	0.0	0.0	0.0	0.000166	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559895	4242877	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559789	4243120	DieselExhPM	0.00374	0.0	0.0	0.0	0.0	0.0	0.0	0.000748	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559573	4243175	DieselExhPM	0.00121	0.0	0.0	0.0	0.0	0.0	0.0	0.000242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560246	4242979	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560068	4242853	DieselExhPM	0.00046	0.0	0.0	0.0	0.0	0.0	0.0	9.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559785	4242851	DieselExhPM	0.00048	0.0	0.0	0.0	0.0	0.0	0.0	9.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559488	4243426	DieselExhPM	0.00038	0.0	0.0	0.0	0.0	0.0	0.0	7.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560027	4243065	DieselExhPM	0.00417	0.0	0.0	0.0	0.0	0.0	0.0	0.000834	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559762	4242876	DieselExhPM	0.00048	0.0	0.0	0.0	0.0	0.0	0.0	9.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559640	4243256	DieselExhPM	0.00288	0.0	0.0	0.0	0.0	0.0	0.0	0.000576	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559625	4242950	DieselExhPM	0.00022	0.0	0.0	0.0	0.0	0.0	0.0	4.4e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559987	4243422	DieselExhPM	0.00642	0.0	0.0	0.0	0.0	0.0	0.0	0.001284	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559560	4243003	DieselExhPM	0.00018	0.0	0.0	0.0	0.0	0.0	0.0	3.6e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559739	4243441	DieselExhPM	0.00079	0.0	0.0	0.0	0.0	0.0	0.0	0.000158	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560181	4243221	DieselExhPM	0.00256	0.0	0.0	0.0	0.0	0.0	0.0	0.000512	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560296	4243060	DieselExhPM	0.00051	0.0	0.0	0.0	0.0	0.0	0.0	0.000102	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560244	4243382	DieselExhPM	0.00151	0.0	0.0	0.0	0.0	0.0	0.0	0.000302	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559497	4243157	DieselExhPM	0.00073	0.0	0.0	0.0	0.0	0.0	0.0	0.000146	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559644	4243486	DieselExhPM	0.00031	0.0	0.0	0.0	0.0	0.0	0.0	6.2e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560176	4243326	DieselExhPM	0.00268	0.0	0.0	0.0	0.0	0.0	0.0	0.000536	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559492	4243165	DieselExhPM	0.00077	0.0	0.0	0.0	0.0	0.0	0.0	0.000154	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560099	4243302	DieselExhPM	0.00567	0.0	0.0	0.0	0.0	0.0	0.0	0.001134	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560199	4242938	DieselExhPM	0.00035	0.0	0.0	0.0	0.0	0.0	0.0	7e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560111	4243078	DieselExhPM	0.00205	0.0	0.0	0.0	0.0	0.0	0.0	0.00041	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559901	4243422	DieselExhPM	0.00486	0.0	0.0	0.0	0.0	0.0	0.0	0.000972	0.0	0.0	0.0	0.0	0.0	0.0	0.0
559627	4243370	DieselExhPM	0.0008	0.0	0.0	0.0	0.0	0.0	0.0	0.00016	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560187	4243309	DieselExhPM	0.00249	0.0	0.0	0.0	0.0	0.0	0.0	0.000498	0.0	0.0	0.0	0.0	0.0	0.0	0.0

559620	4243380	DieselExhPM	0.0007	0.0	0.0	0.0	0.0	0.0	0.0	0.00014	0.0	0.0	0.0	0.0	0.0	0.0	0.0
560285	4243301	DieselExhPM	0.0012	0.0	0.0	0.0	0.0	0.0	0.0	0.00024	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HARP2 - HRACalc (dated 22118) 4/18/2024 7:38:31 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: Cancer
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 5
Total Exposure Duration: 1.53

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 1.53
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
NOTE: The worker adjustment factors below are only used for cancer assessments. However, the GLC adjustment factor is also applied to 8-hr noncancer chronic assessments.
Worker adjustments factors enabled: YES
GLC adjustment factor: 4.2
Exposure frequency: 250

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk saved to: F:\Jobs\35520009\HARP\SchoolCancer_CancerRisk.csv
HRA ran successfully

*HARP - HRACalc v22118 4/18/2024 7:38:31 AM -
Cancer Risk - Input File: F:\Jobs\35520009\HARP\SchoolCancer_HRAInput.hra

GRP1	GRP2	Pollutant	Conc (ug/m3)	Risk	Scenario	Inhaation Risk
SCHOOL	WILLOW EX	DieselExhPM	0.00537	7.1311e-07	1.53YrCancerHighEnd_InhSoilDerm	7.1311e-07

HARP2 - HRACalc (dated 22118) 4/11/2024 4:02:27 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: NCChronic
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating chronic risk
Chronic risk saved to: F:\Jobs\35520009\HARP\SchoolChronic_NCChronicRisk.csv
HRA ran successfully

*HARP - HRACalc v22118 4/11/2024 4:02:27 AM -
Chronic Risk - Input File: F:\Jobs\35520009\HARP\SchoolChronic_HRAInput.hra

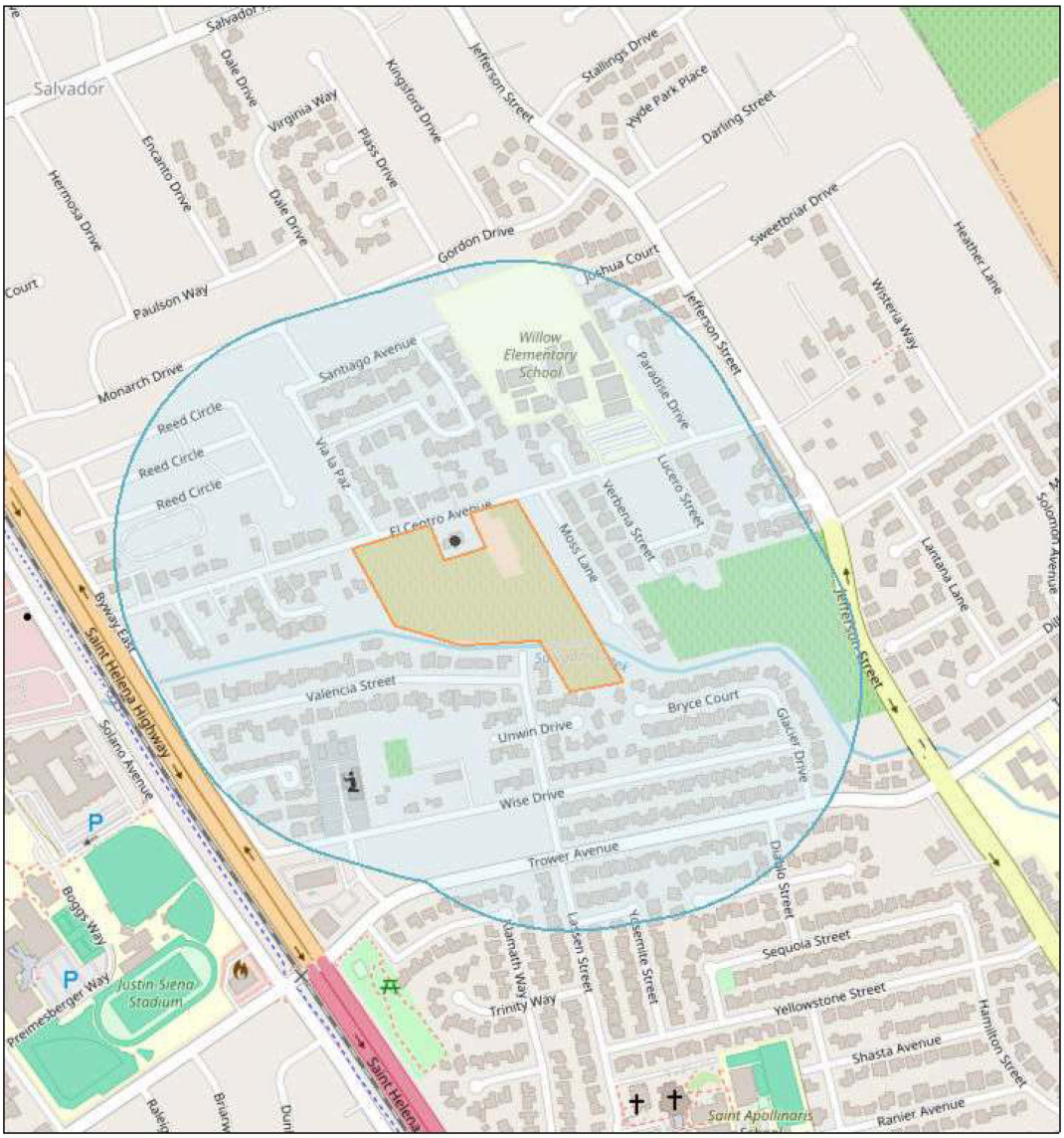
UTME	UTMN	Pollutant	Conc (ug/m3)	CV	CNS	IMMUN	KIDNEY	GILV	REPRO	RESP	SKIN	EYE	B/T	ENDO	BLOOD	ODOR	GEN
SCHOOL	WILLOW EX	DieselExhPM	0.00537	0.0	0.0	0.0	0.0	0.0	0.0	0.001074	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Screening Report

Area of Interest (AOI) Information

Area : 6,589,471.79 ft²

Apr 9 2024 9:31:24 Pacific Daylight Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	0	N/A	N/A

NOTE: A larger buffer than 1000 feet may be warranted depending on proximity to significant sources.

UTMX	UTMY	Road Cancer Risk	Road Chronic HI	Road PM2.5	Rail Cancer Risk	Rail Chronic HI	Rail PM2.5
559741	4243249	13.4	0.030	0.223	-3.40E+38	-3.40E+38	-3.40E+38
559747	4243238	11.9	0.027	0.198	-3.40E+38	-3.40E+38	-3.40E+38
559754	4243225	11.9	0.027	0.198	-3.40E+38	-3.40E+38	-3.40E+38
559763	4243212	11.9	0.027	0.198	-3.40E+38	-3.40E+38	-3.40E+38
559773	4243200	12.3	0.027	0.200	-3.40E+38	-3.40E+38	-3.40E+38
559787	4243185	12.3	0.027	0.200	-3.40E+38	-3.40E+38	-3.40E+38
559804	4243171	11.6	0.026	0.190	-3.40E+38	-3.40E+38	-3.40E+38
559818	4243172	11.6	0.026	0.190	-3.40E+38	-3.40E+38	-3.40E+38
559832	4243172	11.6	0.026	0.190	-3.40E+38	-3.40E+38	-3.40E+38
559848	4243168	11.0	0.024	0.182	-3.40E+38	-3.40E+38	-3.40E+38
559866	4243169	11.0	0.024	0.182	-3.40E+38	-3.40E+38	-3.40E+38
559880	4243168	11.0	0.024	0.182	-3.40E+38	-3.40E+38	-3.40E+38
559894	4243171	11.5	0.026	0.201	-3.40E+38	-3.40E+38	-3.40E+38
559907	4243171	11.5	0.026	0.201	-3.40E+38	-3.40E+38	-3.40E+38
559923	4243171	11.5	0.026	0.201	-3.40E+38	-3.40E+38	-3.40E+38
559946	4243174	11.0	0.024	0.182	-3.40E+38	-3.40E+38	-3.40E+38
559957	4243172	11.0	0.024	0.182	-3.40E+38	-3.40E+38	-3.40E+38
559972	4243172	11.0	0.024	0.182	-3.40E+38	-3.40E+38	-3.40E+38
559985	4243175	11.0	0.024	0.182	-3.40E+38	-3.40E+38	-3.40E+38
559982	4243219	10.4	0.023	0.175	-3.40E+38	-3.40E+38	-3.40E+38
559971	4243232	10.4	0.023	0.175	-3.40E+38	-3.40E+38	-3.40E+38
559967	4243244	10.4	0.023	0.175	-3.40E+38	-3.40E+38	-3.40E+38
559956	4243255	10.4	0.023	0.175	-3.40E+38	-3.40E+38	-3.40E+38
559949	4243268	10.6	0.025	0.200	-3.40E+38	-3.40E+38	-3.40E+38
559937	4243282	10.2	0.023	0.169	-3.40E+38	-3.40E+38	-3.40E+38
559932	4243295	10.2	0.023	0.169	-3.40E+38	-3.40E+38	-3.40E+38
559920	4243307	10.2	0.023	0.169	-3.40E+38	-3.40E+38	-3.40E+38
559882	4243291	10.6	0.024	0.178	-3.40E+38	-3.40E+38	-3.40E+38
559889	4243277	10.6	0.024	0.178	-3.40E+38	-3.40E+38	-3.40E+38
559897	4243266	10.2	0.023	0.169	-3.40E+38	-3.40E+38	-3.40E+38
559908	4243253	10.6	0.023	0.174	-3.40E+38	-3.40E+38	-3.40E+38
559918	4243236	10.6	0.023	0.174	-3.40E+38	-3.40E+38	-3.40E+38
559924	4243228	10.6	0.023	0.174	-3.40E+38	-3.40E+38	-3.40E+38
559933	4243211	10.6	0.023	0.174	-3.40E+38	-3.40E+38	-3.40E+38
559910	4243211	10.6	0.023	0.174	-3.40E+38	-3.40E+38	-3.40E+38
559892	4243209	11.0	0.024	0.182	-3.40E+38	-3.40E+38	-3.40E+38
559875	4243208	11.0	0.024	0.182	-3.40E+38	-3.40E+38	-3.40E+38
559877	4243234	10.5	0.023	0.175	-3.40E+38	-3.40E+38	-3.40E+38
559874	4243245	10.5	0.023	0.175	-3.40E+38	-3.40E+38	-3.40E+38
559849	4243215	10.5	0.023	0.175	-3.40E+38	-3.40E+38	-3.40E+38
559844	4243234	10.5	0.023	0.175	-3.40E+38	-3.40E+38	-3.40E+38
559838	4243213	11.0	0.025	0.183	-3.40E+38	-3.40E+38	-3.40E+38
559815	4243212	11.0	0.025	0.183	-3.40E+38	-3.40E+38	-3.40E+38
559804	4243228	11.0	0.025	0.183	-3.40E+38	-3.40E+38	-3.40E+38
559801	4243236	11.0	0.025	0.183	-3.40E+38	-3.40E+38	-3.40E+38
559788	4243252	11.9	0.027	0.198	-3.40E+38	-3.40E+38	-3.40E+38
559786	4243263	12.4	0.028	0.211	-3.40E+38	-3.40E+38	-3.40E+38
559810	**4243266**	**13.0**	**0.030**	**0.224**	**-3.40E+38**	**-3.40E+38**	**-3.40E+38**
559820	4243252	11.0	0.025	0.183	-3.40E+38	-3.40E+38	-3.40E+38
560027	4243107	11.9	0.026	0.193	-3.40E+38	-3.40E+38	-3.40E+38
560030	4243095	11.9	0.026	0.193	-3.40E+38	-3.40E+38	-3.40E+38

-
3.4028235E

-3.4028E+38 = Raster Code for No Data

Data Provided By: BAAQMD as raster file (.tif) datasets
Roadway Screening Tool - Cancer Risk Last Updated December 8 2022
Roadway Screening Tool - Chronic Hazard Last Updated December 8 2022
Roadway Screening Tool - PM2.5 Last Updated December 8 2022
Rail Screening Tool - Cancer Risk Last Updated January 30 2023
Rail Screening Tool - Chronic Hazard Last Updated January 30 2023
Rail Screening Tool - PM2.5 Last Updated January 30 2023

Zinfandel Estates - On-Site Construction + Operations

Summary of Fossil Fuel Energy Use During Construction

Construction equipment fuel	49,188	gallons (diesel)
Construction vehicle fuel	10,696	gallons (gasoline, diesel)
Total construction fuel	**59,885**	**gallons (gasoline, diesel)**

Zinfandel Estates - On-Site Construction + Operations

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor	PhaseDays	FuelConsumption
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1	8	33	0.73	20	208
Demolition	Excavators	Diesel	Tier 4 Interim	3	8	36	0.38	20	355
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	2	8	367	0.4	20	2,537
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3	8	367	0.4	10	1,903
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4	8	84	0.37	10	537
Grading	Excavators	Diesel	Tier 4 Interim	2	8	36	0.38	30	355
Grading	Graders	Diesel	Tier 4 Interim	1	8	148	0.41	30	786
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1	8	367	0.4	30	1,903
Grading	Scrapers	Diesel	Tier 4 Interim	2	8	423	0.48	30	5,263
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2	8	84	0.37	30	806
Building Construction	Cranes	Diesel	Tier 4 Interim	1	7	367	0.29	300	12,069
Building Construction	Forklifts	Diesel	Tier 4 Interim	3	8	82	0.2	300	6,376
Building Construction	Generator Sets	Diesel	Tier 4 Interim	1	8	14	0.74	300	1,343
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3	7	84	0.37	300	10,573
Building Construction	Welders	Diesel	Tier 4 Interim	1	8	46	0.45	300	2,683
Paving	Pavers	Diesel	Tier 4 Interim	2	8	81	0.42	20	588
Paving	Paving Equipment	Diesel	Tier 4 Interim	2	8	89	0.36	20	554
Paving	Rollers	Diesel	Tier 4 Interim	2	8	36	0.38	20	236
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1	6	37	0.48	20	115
								gallons	49,188

ARB 2021, Low Emission Diesel (LED) Study: Biodiesel and Renewable Diesel Emissions in Legacy and New Technology Diesel Engines, November 2021
Average Value for CARB Reference Fuel - Nonroad Transient Cycle - BSFC = 0.054 gal/bhp-hr

Off-Road Construction Equipment
Fuel Consumption

Zinfandel Estates - On-Site Construction + Operations
Energy Calculations - Construction Vehicle Fuel
Source: AQ/GHG Appendix, CalEEMod Output, EMFAC2021 v1.0.2

Vehicle Type	Total VMT (mi)	mi/gal	gal	Vehicle Cat
Worker	112,121	26.80	4,183	LDA,LDT1,LDT2
Vendor	16,971	6.82	2,487	HHDT,MHDT
Hauling	23,500	5.84	4,026	HHDT
	152,593		**10,696**	**gallons**
	Combined VMT			

Note: Fuel Economy Factors are from EMFAC2021 for: 2025 Napa

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Appendix C:

Cultural Resources and Tribal Cultural Resources Supporting Information

This appendix contains sensitive information relating to cultural resources and is not intended for public distribution pursuant to Public Resources Code Section 21082.3(C)(2). A copy of confidential Appendix C is on file with the City of Napa and is available to qualified professionals upon request.

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Appendix D:

Geology, Seismicity, and Soils Supporting Information

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D.1 - Geotechnical Study Report

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RGH CONSULTANTS

Experience is the difference

GEOTECHNICAL STUDY REPORT

ZINFANDEL SUBDIVISION
1583 AND 1657 EL CENTRO AVENUE
NAPA, CALIFORNIA

Project Number:

7121.01.04.2

Prepared For:

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TABLE OF CONTENTS

INTRODUCTION 1

SCOPE 1

STUDY 2
- Site Exploration 2
- Laboratory Testing 3

SITE CONDITIONS 3
- General 3
- Geology 3
- Surface 3
- Subsurface 4
- Corrosion Potential 4
- Groundwater 4
- Flooding 4

DISCUSSION AND CONCLUSIONS 5
- Seismic Hazards 5
  - Faulting and Seismicity 5
  - Liquefaction 5
  - Densification 6
- Geotechnical Issues 7
  - General 7
  - Weak, Porous Surface Soil 7
  - Expansive Soil 7
    - Foundation, Slab and Pavement Support 7
  - On-Site Soil Quality 8
  - Settlement 8
  - Surface Drainage 8

RECOMMENDATIONS 9
- Seismic Design 9
- Grading 9
  - Site Preparation 9
  - Stripping 9
  - Excavations 10
  - Fill Quality 10
  - Import Fill 10
  - Fill Placement 11
  - Wet Weather Grading 12
- Foundation Support 12
  - Post-Tension Slabs 12
  - Drilled Piers 13
    - Skin Friction 13
    - Lateral Forces 13
    - Uplift Forces 14
    - Pier Drilling 14
    - Concrete 14
- Slab-On-Grade 14
- Utility Trenches 15
- Pavements 15

TABLE OF CONTENTS (cont'd)

Wet Weather Paving 16
Geotechnical Drainage 16
Perimeter Foundation Drains 16
Crawl Space Drains 17
Slab Underdrains 17
Maintenance 17
Supplemental Services 17
Pre-Bid Meeting 17
Plan and Specifications Review 18
Construction Observation and Testing 18

LIMITATIONS 19

APPENDICES
APPENDIX A - PLATES A-1
APPENDIX B - REFERENCES B-1
APPENDIX C - DISTRIBUTION C-1
INFORMATION ABOUT YOUR GEOTECHNICAL REPORT

INTRODUCTION

This report presents the results of our geotechnical study for the Zinfandel Subdivision to be constructed at 1583 and 1657 El Centro Avenue in Napa, California. The parcels extend over relatively flat terrain and contain vineyards and two residences. A narrow creek channel runs generally southwest along most of the southern border of the property. The southeastern corner of the site extends to the south side of the stream. The site location is shown on Plate 1, Appendix A.

We understand it is proposed to construct a 55-lot residential subdivision on the two properties. We anticipate that one- and two-story, wood-frame structures with attached garages will be constructed on the individual lots. The subdivision will include removal of one existing residence and its outbuildings. Public streets and utilities will be constructed as part of the project. Structurally supported wood floors or concrete slab floors will be used in the living areas. Slab floors will be used in the garages.

Foundation loads are expected to be typical for the light to moderately heavy type of construction planned. We anticipate that site grading will be the minimum amount needed to construct level building pads and paved areas with positive drainage, and could include cuts and fills on the order of 1 to 2 feet.

Utility plans are not available, but we have assumed for this study that the project utilities will extend no deeper than 10 feet below the existing ground surface. If project utilities extend deeper, supplemental exploration may be required to evaluate the soil conditions within and below the utility excavations.

SCOPE

The purpose of our study, as outlined in our Professional Service Agreement dated October 11, 2017, was to generate geotechnical information for the design and construction of the project. Our scope of services included reviewing selected published geologic data pertinent to the site; evaluating the subsurface conditions with borings and laboratory tests; analyzing the field and laboratory data; and presenting this report with the following geotechnical information:

1. A brief description of the soil and groundwater conditions observed during our study;

2. A discussion of seismic hazards that may affect the proposed development;

3. Seismic design criteria per guidelines in the 2016 California Building Code; and

4. Conclusions and recommendations regarding:

    a. Primary geotechnical engineering concerns and mitigating measures, as applicable;

    b. Site preparation and grading including remedial grading of weak, porous, compressible and expansive surface soil;

    c. Foundation types, design criteria, and estimated settlement behavior;

    d. Lateral loads for retaining wall design;

    e. Support of concrete slabs-on-grade;

f. Preliminary pavement thickness based on our experience with similar soil and projects and the results of an R-value test on the anticipated subgrade soil;

g. Utility trench backfill;

h. Geotechnical engineering drainage improvements; and

i. Supplemental geotechnical engineering services.

STUDY

Site Exploration

We reviewed our previous geotechnical studies in the vicinity and selected geologic references pertinent to the site. The geologic literature reviewed is listed in Appendix B. On October 30 and December 19, 2017, we performed a geotechnical reconnaissance of the site and explored the subsurface conditions by drilling twelve borings to depths ranging from about 11 to 18½ feet. Borings B-1 through B-8 were drilled with a truck-mounted drill rig equipped with 6-inch diameter, solid stem augers. Borings B-9 through B-12 were drilled with a limited-access, track-mounted drill rig equipped with 4-inch solid stem augers. Approximate locations for each of the borings are shown on the Exploration Plan, Plate 2. The boring locations were determined approximately by pacing their distance from features shown on the Exploration Plan and should be considered accurate only to the degree implied by the method used. Our field engineer located and logged the borings and obtained samples of the materials encountered for visual examination, classification and laboratory testing.

Relatively undisturbed samples were obtained from the borings at selected intervals by driving a 2.43-inch inside diameter, split spoon sampler, containing 6-inch long brass liners, using a 140-pound hammer dropping approximately 30 inches. The sampler was driven 12 to 18 inches. The blows required to drive each 6-inch increment were recorded and the blows required to drive the last 12 inches, or portion thereof, were converted to equivalent Standard Penetration Test (SPT) blow counts for correlation with empirical data. Disturbed samples were also obtained at selected depths by driving a 1.375-inch inside diameter (2-inch outside diameter) SPT sampler, without liners or rings, using a 140-pound hammer dropping approximately 30 inches. The sampler was driven 12 to 18 inches, the blows to drive each 6-inch increment were recorded, and the blows required to drive the final 12 inches, or portion thereof, are provided on the boring logs. Disturbed “bulk” samples of the near surface soil were also obtained from the borings and placed in buckets.

The logs of the borings showing the materials encountered, groundwater conditions, converted blow counts and sample depths are presented on Plates 3 through 14. The soil is described in accordance with the Unified Soil Classification System, outlined on Plate 15.

The boring logs show our interpretation of the subsurface soil and groundwater conditions on the date and at the locations indicated. Subsurface conditions may vary at other locations and times. Our interpretation is based on visual inspection of soil samples, laboratory test results, and interpretation of drilling and sampling resistance. The location of the soil boundaries should be considered approximate. The transition between soil types may be gradual.

Laboratory Testing

The samples obtained from the borings were transported to our office and re-examined to verify soil classifications, evaluate characteristics, and assign tests pertinent to our analysis. Selected samples were laboratory tested to determine their water content, dry density, classification (Atterberg Limits, percent of silt and clay), shear strength, expansion potential (Expansion Index - EI) and R-value. The test results are presented on the boring logs and on Plates 16 through 22.

SITE CONDITIONS

General

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

Geology

Published geologic maps (Clahan et al., 2004) indicate the property is underlain by undivided alluvium of latest Pleistocene age. The alluvium includes fan, stream terrace, basin, and channel deposits composed of poorly to moderately sorted sand, silt, clay and gravel.

Surface

The parcels extend primarily over relatively flat, valley terrain extending southward from El Centro Avenue. A narrow creek channel runs generally southwest along most of the southern border of the property. The southeastern corner of the site extends to the south side of the stream. A small pedestrian bridge spans the creek in this area. Two residences, including some outbuildings, are located along El Centro Avenue. The remainder of the site is covered in vineyards. In general, the ground surface within the vineyard area, which makes up most of the site, is soft and spongy. This is a condition generally associated with weak, porous surface soil. Natural drainage consists of sheet flow over the ground surface that concentrates in man-made surface drainage elements such as roadside ditches, and natural drainage elements such as the creek.

Subsurface

Our borings and laboratory tests indicate that the portion of the site we studied is blanketed by 1 to about 3 feet of weak, porous, compressible, clayey soil. Porous soil appears hard and strong when dry but becomes weak and compressible as its moisture content increases towards saturation. Our borings were performed in the vineyard access roads. It has been our experience that weak and porous soil within vineyards extend to the depth of previous ripping, which usually is about 3 feet. The near surface soil generally exhibits low to medium plasticity (LL = 29 to 37; PI = 11 to 17) and low to medium expansion potential (EI = 32 to 59). Locally the near surface soils exhibit higher plasticity and expansion potential than indicated by the laboratory test results. The near-surface soils are typically underlain by clay, clayey sand and clayey sand with gravel to the maximum depths explored (about 18½ feet). A detailed description of the subsurface conditions found in our borings is given on Plates 3 through 14, Appendix A. Based on Table 20.3-1 of American Society of Civil Engineers (ASCE) Standard 7-10, titled "Minimum Design Loads for Buildings and Other Structures" (2010), we have determined a Site Class of D should be used for the site.

Corrosion Potential

Mapping by the Natural Resources Conservation Service (2017) indicates that the corrosion potential of the near surface soil is high for uncoated steel and moderate for concrete. Performing corrosivity tests to verify these values was not part of our requested and/or proposed scope of work. Should the need arise, we would be pleased to provide a proposal to evaluate these characteristics.

Groundwater

Free groundwater was first detected in our borings at depths ranging from about 7 to 14 feet below the ground surface at the time of drilling. When borings B-2 and B-6 were backfilled after drilling was completed, the water level had risen to depths ranging from about 9 to 9½ feet. Groundwater was not detected in borings B-3 and B-5. Fluctuation in the groundwater level typically occurs because of a variation in rainfall intensity, duration and other factors such as flooding, irrigation, and well locations.

Flooding

Our review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Napa County, California, Unincorporated Areas (Community Panel No. 06055C0504E) dated September 26, 2008, indicates that the site is located within Zone "X", an area outside of the 0.2 percent chance annual flood plain. Evaluation of flooding potential is typically the responsibility of the project civil engineer.

DISCUSSION AND CONCLUSIONS

Seismic Hazards

Faulting and Seismicity

We did not observe landforms within the area that would indicate the presence of active faults and the site is not within a current Alquist-Priolo Earthquake Fault Zone (Bryant and Hart, 2007). Therefore, we believe the risk of fault rupture at the site is low. The site is within an area affected by strong seismic activity. Several northwest-trending Earthquake Fault Zones exist in close proximity to and within several miles of the site (Bortugno, 1982). The shortest distances from the site to the mapped surface expression of these faults are presented in the table below. Based on the nearby active faults, future seismic shaking should be anticipated at the site. It will be necessary to design and construct the proposed improvements in strict adherence with current standards for earthquake-resistant construction.

ACTIVE FAULT PROXIMITY		
Fault	**Direction**	**Distance-Miles**
San Andreas	SW	34½
Healdsburg-Rodgers Creek	SW	14
Concord-Green Valley	E	5½
Cordelia	E	8
West Napa	WSW	2

Liquefaction

Liquefaction is a rapid loss of shear strength experienced in saturated, predominantly granular soil below the groundwater level during strong earthquake ground shaking due to an increase in pore water pressure. The occurrence of this phenomenon is dependent on many complex factors including the intensity and duration of ground shaking, particle size distribution and density of the soil.

Granular soil was encountered at the site below the groundwater table. Therefore, we performed an analysis of the blow count data from our borings using the methods of Seed and Idriss (1982), Seed and others (1985), Youd and Idriss (2001), Idriss and Boulanger (2004) and Idriss and Boulanger (2008). These procedures normalize the blow counts to account for overburden pressure, rod length, hammer energy, and fines (percent of silt and clay) content. Once the blow counts are normalized and adjusted to a clean sand blow count, the cyclic resistance ratio (CRR) for each blow count is then determined using the same procedures referenced above. The CRR is compared to the cyclic stress ratio (CSR) induced by the earthquake. Calculating the CSR requires a peak ground acceleration and design earthquake magnitude.

Peak ground acceleration (PGA) was determined using the methods in the 2016 California Building Code (CBC) and the ASC) Standard 7-10 (2010). Using the U.S. Seismic Design Maps from the United States Geological Survey (USGS) website (http://earthquake.usgs.gov/designmaps/us/application.php), the site's latitude and longitude of 38.3350°N and 122.3147°W, respectively, and a site soil Class of D, the PGA for the site is 0.676g. Using this information, the CSR for a M_M 7.5 earthquake at the site ranges from 0.44 to 0.54. The Concord-Green Valley fault is most likely controlling the ground motions at the site. According to Petersen (1996), the Concord-Green Valley fault is capable of a M_M 6.9 earthquake. Therefore, the CRR values at the site must be scaled to account for the difference between M_M 6.9 and M_M 7.5. When the scaling factor for magnitude and confining stress corrections presented in Idriss and Boulanger (2004) are applied, the CRR values at the site do not exceed the CSR values for layers ranging in thickness from about 1½ to 5 feet between about 8 and 16 feet.

There are three potential consequences of liquefaction: bearing capacity failure, lateral spreading toward a free face (e.g. riverbank) and settlement. Bearing capacity failure is sudden and extreme settlement of foundations that typically occurs when the liquefied layer is relatively close (typically within two times the footing width, depending on the loads) to the bottom of the foundation. Because the liquefiable layer is 8 feet below the ground surface at its shallowest, we judge that the potential for bearing capacity failure is low.

Lateral spreading can occur where continuous layers of liquefiable soil extend to a free face, such as a creek bank. There is a creek that is about 8 feet deep that runs through the property. The potentially liquefiable layers at the site are discontinuous and the shallowest these soils were observed is at 8 feet, which is below the creek bottom. Therefore, we judge the potential for liquefaction-induced lateral spreading at the site is low.

The third potential consequence of liquefaction is settlement due to densification of the liquefied soil. Potential settlements based on the blow count data and cyclic stress ratio were calculated using the methods of Ishihara and Yoshimine (1992). For the layers encountered in our borings, we calculated total settlement ranging from ¼ to 1¼ inches. Given that liquefiable soils are not present in all of our borings, differential settlement could range from ¼ to 1¼ inches between adjacent borings. Based on the location of the borings, we estimate that liquefaction-induced differential settlement across each residence could be on the order of ½ inch.

Densification

Densification is the settlement of loose, granular soil above the groundwater level due to earthquake shaking. Typically, granular soil that would be susceptible to liquefaction, if saturated, are susceptible to densification if not saturated. As discussed in the "Liquefaction" section, the soil at the site have the potential for liquefaction. However, granular soils were not encountered above the groundwater table. Therefore, we judge that there is a low potential for densification to impact planned residences.

Geotechnical Issues

General

Based on our study, we judge the proposed residences and associated improvements can be built as planned, provided the recommendations presented in this report are incorporated into their design and construction. The primary geotechnical concerns during design and construction of the project are:

1. The presence of up to 3 feet of weak, porous, compressible surface soil that can locally be medium to highly expansive;

2. The detrimental effects of uncontrolled surface runoff on the long-term satisfactory performance of residences; and

3. The strong ground shaking predicted to impact the site during the life of the project.

Weak, Porous Surface Soil

Weak, porous surface soil, such as that found at the site, appears hard and strong when dry but will lose strength rapidly and settle under the load of fills, foundations, slabs, and pavements as its moisture content increases and approaches saturation. The moisture content of this soil can increase as the result of rainfall, periodic irrigation or when the natural upward migration of water vapor through the soil is impeded by, and condenses under fills, foundations, slabs, and pavements. The detrimental effects of such movements can be reduced by strengthening the soil during grading. This can be achieved by excavating the weak soil and replacing it as properly compacted fill. Alternatively, satisfactory foundation support could be obtained below the weak surface soil.

Expansive Soil

The near surface soil can be locally expansive. Expansive surface soil shrinks and swells as it loses and gains moisture throughout the yearly weather cycle. Near the surface, the resulting movements can heave and crack lightly loaded shallow foundations (spread footings) and slabs. The zone of significant moisture variation (active layer) is dependent on the expansion potential of the soil and the extent of the dry season. In the Napa area, the active layer is generally considered to range in thickness from about 2 to 3 feet. Stable foundation support needs to be obtained below the active layer or from post-tensioned slabs-on-grade.

Foundation, Slab and Pavement Support - After remedial grading, satisfactory foundation support for the residences can be obtained from post-tensioned slabs-on-grade bottomed on the engineered fill. Exterior slabs and pavements can also be satisfactorily supported on the engineered fill.

As an alternative to the extensive grading required to strengthen the weak, locally expansive, surface soil, satisfactory foundation support for the residences can be obtained from a system of grade beams supported on drilled piers that gain support below the weak surface materials and the active layer. With this alternative, it will not be necessary to remove and recompact the weak surface materials within living areas provided that:

1. Wood floors supported on joist above grade are used in living areas; and

2. The weak soil is removed and recompacted for a depth of at least 12 inches in garage, exterior concrete slab-on-grade and paved areas.

On-Site Soil Quality

We anticipate that, with the exception of organic matter and of rocks or lumps larger than 6 inches in diameter, the excavated material will be suitable for re-use as engineered fill within building, exterior slab and pavement areas.

Settlement

If the remedial grading and/or foundations are installed in accordance with the recommendations presented in this report, we estimate that post-construction non-earthquake-induced differential settlement across each residence will be about ½-inch. In addition, we estimate that earthquake-induced differential settlement across each residence will be about ½-inch.

Surface Drainage

The site may be impacted by surface runoff. Surface runoff typically sheet flows over the ground surface but can be concentrated by the planned site grading, landscaping, and drainage. The surface runoff can pond against structures and/or seep into the crawl space or slab rock. Therefore, strict control of surface runoff is necessary to provide long-term satisfactory performance of residential projects. It will be necessary to divert surface runoff around improvements and provide positive drainage away from structures. This can be achieved by constructing the building pads several inches above the surrounding area and conveying the runoff into man made drainage elements or natural swales that lead downgradient of the site.

RECOMMENDATIONS

Seismic Design

Seismic design parameters presented below are based on Section 1613 titled "Earthquake Loads" of the 2016 California Building Code (CBC). Based on Table 20.3-1 of ASCE Standard 7-10 (2010), we have determined a Site Class of D should be used for the site. Using a site latitude and longitude of 38.3350°N and 122.3147°W, respectively, and the U.S. Seismic Design Maps from the United States Geological Survey (USGS) website (http://earthquake.usgs.gov/designmaps/us/application.php), we recommend that the following seismic design criteria be used for structures at the site.

2016 CBC Seismic Criteria	
Spectral Response Parameter	**Acceleration (g)**
S_S (0.2 second period)	1.956
S_1 (1 second period)	0.701
S_{MS} (0.2 second period)	0.956
S_{M1} (1 second period)	1.051
S_{DS} (0.2 second period)	1.304
S_{D1} (1 second period)	0.701

Grading

Site Preparation

Areas to be developed should be cleared of vegetation and debris, including that left by the removal of obsolete structures. Trees and shrubs that will not be part of the proposed development should be removed and their primary root systems grubbed. Cleared and grubbed material should be removed from the site and disposed of in accordance with County Health Department guidelines. We did not observe septic tanks, leach lines or underground fuel tanks during our study. Any such appurtenances found during grading should be capped and sealed and/or excavated and removed from the site, respectively, in accordance with established guidelines and requirements of the County Health Department. Voids created during clearing should be backfilled with engineered fill as recommended herein.

Stripping

Areas to be graded should be stripped of the upper few inches of soil containing organic matter. Soil containing more than two percent by weight of organic matter should be considered organic. Actual stripping depth should be determined by a representative of the geotechnical engineer in the field at the time of stripping. The strippings should be removed from the site, or if suitable, stockpiled for re-use as topsoil in landscaping.

Excavations

Following initial site preparation, excavation should be performed as recommended herein. Excavations extending below the proposed finished grade should be backfilled with suitable materials compacted to the requirements given below.

Within building areas, where post-tensioned slabs are chosen for foundation support, the weak, porous, compressible, previously ripped soils should be excavated to within 6 inches of their entire depth (approximately 3 feet). This grading is not required where drilled pier and grade beam foundations are used. Within garage slab subgrade areas, where drilled pier foundations are used, and within exterior slab and pavement subgrade areas, the weak, porous, compressible soils should be removed to at least 12 inches below subgrade. The excavation of weak, porous, compressible, surface materials should extend at least 5 feet beyond the outside edge of the post-tensioned slabs and 3 feet beyond the edge of exterior slabs and pavements. The excavated materials should be stockpiled for later use as compacted fill, or removed from the site, as applicable.

At all times, temporary construction excavations should conform to the regulations of the State of California, Department of Industrial Relations, Division of Industrial Safety or other stricter governing regulations. The stability of temporary cut slopes, such as those constructed during the installation of underground utilities, should be the responsibility of the contractor. Depending on the time of year when grading is performed, and the surface conditions exposed, temporary cut slopes may need to be excavated to 1½:1, or flatter. The tops of the temporary cut slopes should be rounded back to 2:1 in weak soil zones.

Fill Quality

All fill materials should be free of perishable matter and rocks or lumps over 6 inches in diameter, and must be approved by the geotechnical engineer prior to use. We judge the on-site soil is generally suitable for use as engineered fill within building, garage slab, exterior slab and pavement areas. The suitability of the on-site soil for use as engineered fill should be verified during grading.

Import Fill

In general, import fill, if needed, should be select. Select fill should be free of organic matter, have a low expansion potential, and conform in general to the following requirements:

SIEVE SIZE	PERCENT PASSING (by dry weight)
6 inch	100
4 inch	90 – 100
No. 200	10 – 60

Liquid Limit – 40 Percent Maximum
Plasticity Index – 15 Percent Maximum

Material not conforming to these requirements may be suitable for use as import fill; however, it shall be the contractor's responsibility to demonstrate that the proposed material will perform in an equivalent manner. The geotechnical engineer should approve imported materials prior to use as compacted fill. The grading contractor is responsible for submitting, at least 72 hours (3 days) in advance of its intended use, samples of the proposed import materials for laboratory testing and approval by the soils engineer.

Fill Placement

The surface exposed by stripping and removal of weak, porous, compressible surface soil should be scarified to a depth of at least 6 inches, uniformly moisture-conditioned to at least 2 percent above optimum and compacted to at least 90 percent of the maximum dry density of the materials as determined by ASTM Test Method D-1557. Approved fill material should then be spread in thin lifts, uniformly moisture-conditioned to at least 2 percent above optimum and properly compacted. All structural fills, including those placed to establish site surface drainage, should be compacted to at least 90 percent relative compaction.

SUMMARY OF COMPACTION RECOMMENDATIONS

Area	Compaction Recommendation (ASTM D-1557)
Preparation for areas to receive fill	After preparation in accordance with this report, compact upper 6 inches to a minimum of 90 percent relative compaction.
General fill (native or import)	Compact to a minimum of 90 percent relative compaction.
Structural fill beneath buildings, extending outward to 5' beyond building perimeter	Compact to a minimum of 90 percent relative compaction.
Trenches	Compact to a minimum of 90 percent relative compaction. Compact the top 6 inches below vehicle pavement subgrade to a minimum of 95 percent relative compaction.
Pavements, extending outward to 3' beyond edge of pavement	Compact upper 6 inches of subgrade to a minimum of 95 percent relative compaction.
Concrete flatwork and exterior slabs, extending outward to 3' beyond edge of slab	Compact subgrade to a minimum of 90 percent relative compaction. Where subject to vehicle traffic, compact upper 6 inches of subgrade to at least 95 percent relative compaction.
Aggregate Base	Compact aggregate base to at least 95 percent relative compaction.

Wet Weather Grading

Generally, grading is performed more economically during the summer months when on-site soil are usually dry of optimum moisture content. Delays should be anticipated in site grading performed during the rainy season or early spring due to excessive moisture in on-site soil. Special and relatively expensive construction procedures, including dewatering of excavations and importing granular soil, should be anticipated if grading must be completed during the winter and early spring or if localized areas of soft saturated soil are found during grading in the summer and fall.

Open excavations also tend to be more unstable during wet weather as groundwater seeps towards the exposed cut slope. Severe sloughing and occasional slope failures should be anticipated. The occurrence of these events will require extensive clean up and the installation of slope protection measures, thus delaying projects. The general contractor is responsible for the performance, maintenance and repair of temporary cut slopes.

Foundation Support

Post-tensioned slabs can be used if the weak and porous surface soils have been strengthened through remedial grading. As an alternative to remedial grading, drilled piers and grade beams can be used with raised wood floors. Specific recommendations for each alternative are given in the following sections of the report.

Post-Tension Slabs

A post tension (PT) slab should be a designed to accommodate edge moisture variation distances of 4.5 and 8.7 feet for edge and center lift conditions, respectively, a differential edge swell of 0.46 inch and a center swell of 0.63 inch. These parameters were developed using the Post-Tensioning Institute manual “Design and Construction of Post-Tensioned Slabs-On-Ground, Third Edition” (2004). When using these criteria, PT slabs should be designed in accordance with the procedures of the Third Edition only. A PT slab installed in accordance with the foregoing recommendations may be designed using allowable bearing pressures of 2,000, 3,000 and 4,000 pounds per square foot (psf) for dead loads, dead plus code live loads, and total loads, including wind and seismic, respectively. We recommend a minimum slab thickness of 10 inches and a 12-inch-wide (minimum) perimeter thickened edge. Concentrated loads in the slab interior should also be supported by thickened beams within the slab.

The PT slab should be underlain with a capillary moisture break consisting of at least 4 inches of clean, free-draining crushed rock or gravel (excluding pea gravel) at least ¼-inch and no larger than ¾-inch in size. The subgrade soil within and for a distance of 5 feet beyond the footprint of the buildings should be kept pre-swelled until the capillary moisture break is placed. The moisture content of the subgrade soil should be approved by the geotechnical engineer within 24 hours prior to placing the capillary moisture break. Where migration of moisture vapor through slabs would be detrimental, a moisture vapor barrier should be provided. RGH does not practice in the field of moisture vapor transmission evaluation or mitigation. Therefore, we recommend that a qualified person be consulted to evaluate the general and specific moisture vapor transmission paths and any impact on the proposed construction. This person should

provide recommendations for mitigation of the potential adverse impact of moisture vapor transmission on various components of the structure as deemed appropriate.

Structural elements that are attached to the structure, but have their own foundation should not be used or should be founded on the PT slab. Exterior flatwork and concrete walkway subgrades should be underlain by at least 12 inches of engineered fill. In addition, concrete walkways should be:

1. Cast separate from the PT slab to allow differential settlement to occur without distressing the walkway;

2. Reinforced to reduce cracks; and

3. Grooved to induce cracking in a non-obtrusive manner.

The Post-Tensioning Institute states “Consideration should be given to ‘artificial’ effects, such as planter units adjacent to structural bearing areas. Tree roots can be a serious problem and cause volume reduction in limited areas, thus causing distress to the slab foundation. Trees that are planted closer to the foundation than half their ultimate height can be expected to cause significant differential movement.”

Drilled Piers

Drilled piers should be at least 12 inches in diameter and should extend at least 8 feet below finished ground surface. Where fill is placed to create a pad and the weak, compressible soil is not strengthened by grading, the piers should be deepened in direct proportion to the thickness of fill. Larger piers and deeper embedment may be needed to resist the lateral forces imposed by earthquakes per the 2016 California Building Code. Piers should be spaced no closer than 3 pier diameters, center to center.

Skin Friction - The portion of the piers extending below the weak and porous layer (3 feet plus fill, if placed) may be designed using an allowable skin friction of 500 psf for dead load plus long term live loads. This value can be increased by ⅓ for total loads, including downward vertical wind or seismic forces, however the skin friction below 8 feet should be neglected when evaluating seismic loading due to liquefaction. A skin friction value of 350 psf should be used to resist uplift forces, but should be neglected below 8 feet if being used to resist seismic forces. End bearing should be neglected because of the difficulty of cleaning out small diameter pier holes, and the uncertainty of mobilizing end bearing and skin friction simultaneously.

Lateral Forces - Lateral loads on piers will be resisted by passive pressure on the soil. An equivalent fluid pressure of 350 pcf acting on two pier diameters should be used. Confinement for passive pressure may be assumed from 3 feet below the lowest adjacent finished ground surface. When analyzing for seismic forces, passive pressure should not be applied below 8 feet from existing grade due to liquefaction.

The piers should be interconnected with grade beams to support building loads and to redistribute stresses imposed by wind or earthquakes and the expansive surface soil. The grade beams should be designed to span between the piers in accordance with structural requirements. The steel from the piers should extend sufficient distance into the grade beams to develop its full bond strength.

Uplift Forces - The piers and grade beams should be designed to resist uplift pressures imposed by expansive soil. The uplift pressure should be assumed to be 2,000 psf of grade beam surface contact. Alternatively, a 2-inch thick void form can be used below the grade beams.

Pier Drilling - We did encounter groundwater within potential pier depths during our study. If groundwater is encountered during drilling, it may be necessary to de-water the holes and/or place the concrete by the tremie method. If caving soil is encountered, it may be necessary to case the holes.

Concrete - Concrete mix design and placement should be done in accordance with the current ADSC and/or ACI specifications. Concrete should not be allowed to mushroom at the top of the piers or below the bottom of grade beams.

Slab-On-Grade

Provided grading is performed in accordance with the recommendations presented herein, exterior and garage slabs should be underlain by engineered fill. Slab-on-grade subgrade should be rolled to produce a dense, uniform surface. The future expansion potential of the subgrade soil should be reduced by thoroughly presoaking the slab subgrade prior to concrete placement. The moisture condition of the subgrade soil should be checked by the geotechnical engineer no more than 24 hours prior to placing the capillary moisture break. The slabs should be underlain with a capillary moisture break consisting of at least 4 inches of clean, free-draining crushed rock or gravel (excluding pea gravel) at least ¼-inch and no larger than ¾-inch in size. Interior slabs subject to vehicular traffic may be underlain by Class 2 aggregate base. The use of Class 2 aggregate base should be reviewed on a case by case basis. Class 2 aggregate base can be used for slab rock under exterior slabs.

Slabs should be designed by the project civil or structural engineer to support the anticipated loads, reduce cracking and provide protection against the infiltration of moisture vapor. Garage slabs should be separated from foundations and framing elements with low friction material.

A vapor barrier should be placed under all slabs-on-grade that are likely to receive an impermeable floor finish or be used for any purpose where the passage of water vapor through the floor is undesirable. RGH does not practice in the field of moisture vapor transmission evaluation or mitigation. Therefore, we recommend that a qualified person be consulted to evaluate the general and specific moisture vapor transmission paths and any impact on the proposed construction. This person should provide recommendations for mitigation of the potential adverse impact of moisture vapor transmission on various components of the structure as deemed appropriate.

Utility Trenches

The shoring and safety of trench excavations is solely the responsibility of the contractor. Attention is drawn to the State of California Safety Orders dealing with "Excavations and Trenches."

Unless otherwise specified by the City of Napa, on-site, inorganic soil may be used as utility trench backfill. Where utility trenches support pavements, slabs and foundations, trench backfill should consist of aggregate baserock. The baserock should comply with the minimum requirements in Caltrans Standard Specifications, Section 26 for Class 2 Aggregate Base. Trench backfill should be moisture-conditioned as necessary, and placed in horizontal layers not exceeding 8 inches in thickness, before compaction. Each layer should be compacted to at least 90 percent relative compaction as determined by ASTM Test Method D-1557. The top 6 inches of trench backfill below vehicle pavement subgrades should be moisture-conditioned as necessary and compacted to at least 95 percent relative compaction. Jetting or ponding of trench backfill to aid in achieving the recommended degree of compaction should not be attempted.

Pavements

An R-Value of 5 was measured on a composite sample of the anticipated pavement subgrade soils. Based on the measured R-Value, we have computed pavement sections for Traffic Indices (TI) ranging from 5.0 to 7.0 in the table below. The project engineer, in consultation with City officials, should choose the pertinent (TI) for this project.

PAVEMENT SECTIONS			
TI	ASPHALT CONCRETE (feet)	CLASS 2 AGGREGATE BASE (feet)	AGGREGATE SUBBASE (feet)
7.0	0.35	1.25	0
6.0	0.25	1.15	0
5.0	0.20	0.90	0

Pavement thicknesses were computed using Caltrans CalFP v1.5 design software and are based on a pavement life of 20 years. These recommendations are intended to provide support for traffic represented by the indicated Traffic Indices. They are not intended to provide pavement sections for heavy concentrated construction storage or wheel loads such as forklifts, parked truck-trailers and concrete trucks.

In areas where heavy construction storage and wheel loads are anticipated, the pavements should be designed to support these loads. Support could be provided by increasing pavement sections or by providing reinforced concrete slabs. Alternatively, paving can be deferred until heavy construction storage and wheel loads are no longer present.

Prior to placement of aggregate base, the upper 6 inches of the pavement subgrade soil should be scarified, uniformly moisture-conditioned to near optimum, and compacted to at least 95 percent relative compaction to form a firm, non-yielding surface. Aggregate base materials should be spread in thin layers, uniformly moisture-conditioned, and compacted to at least 95 percent relative compaction to form a firm, non-yielding surface. The materials and methods used should conform to the requirements of the City of Napa and the current edition of the Caltrans Standard Specifications, except that compaction requirements should be based on ASTM Test Method D-1557. Aggregate used for the base course should comply with the minimum requirements specified in Caltrans Standard Specifications, Section 26 for Class 2 Aggregate Base.

Wet Weather Paving

In general, the pavements should be constructed during the dry season to avoid the saturation of the subgrade and base materials, which often occurs during the wet winter months. If pavements are constructed during the winter, a cost increase relative to drier weather construction should be anticipated. Unstable areas may have to be overexcavated to remove soft soil. The excavations will probably require backfilling with imported crushed (ballast) rock. The geotechnical engineer should be consulted for recommendations at the time of construction.

Geotechnical Drainage

Surface water should be diverted away from foundations and edges of pavements. Surface drainage gradients should slope away from building foundations in accordance with the requirements of the CBC or local governing agency. Where a gradient flatter than 2 percent for paved areas and 4 percent for unpaved areas is required to satisfy design constraints, area drains should be installed within the rear and side yard swales with spacing no greater than about 20 feet. Roofs should be provided with gutters and the downspouts should be connected to closed (glued Schedule 40 PVC or ABS with SDR of 35 or better) conduits discharging well away from foundations, onto paved areas or into the site's surface drainage system. Roof downspouts and surface drains must be maintained entirely separate from the perimeter foundation drains and slab underdrains recommended hereinafter.

Water seepage or the spread of extensive root systems into the soil subgrade of footings, slabs or pavements could cause differential movements and consequent distress in these structural elements. Landscaping should be planned with consideration for these potential problems.

Perimeter Foundation Drains

Where interior crawl spaces are lower than adjacent exterior grade, subdrains should be installed adjacent to perimeter foundations to prevent surface runoff from entering the crawl space. Foundation drains should consist of trenches that are at least 10 inches below the crawl space surface and are sloped to drain by gravity. Four-inch diameter perforated pipe sloped to drain to outlets by gravity should be placed in the bottom of the trenches. The top of subdrain pipes should be at least 12 inches lower than the adjacent crawl space. The perimeter subdrain trenches should be backfilled to within 6 inches of the surface with Class 2 permeable material.

The upper 6 inches should be backfilled with compacted soil to exclude surface water. An illustration of this system is shown on Plate 23. Where perimeter foundation drains are not used, water ponding in the crawl space should be anticipated.

Crawl Space Drains

Crawl spaces are inherently damp and humid. In addition, groundwater seepage is unpredictable and difficult to control and, regardless of the care used in installing perimeter foundation drains, can find its way into crawl spaces. The ground surface within the crawl space should be sloped to drain away from foundations and toward a 12-inch square drain trench that is excavated through the longitudinal axis of the crawl space. A 4-inch diameter perforated drain pipe (SDR 35 or better) should be embedded in Class 2 permeable materials near the bottom of the trench. The drain rock should extend to the surface of the crawl space (see Plate 23). Piped outlets should be provided to allow drainage of the collected water through foundations and discharge into the storm drain system. Additional protection against water seepage into crawl spaces can be obtained by compacting fill placed adjacent to perimeter walls to at least 90 percent relative compaction.

Slab Underdrains

Where living area slab subgrades are less than 6 inches above adjacent exterior grade and where migration of moisture through the slab would be detrimental, slab underdrains should be installed to dispose of surface and/or groundwater that may seep and collect in the slab rock. Slab underdrains should consist of 6-inch wide trenches that extend at least 6 inches below the bottom of the slab rock and slope to drain by gravity. The slab underdrain trenches should be spaced no further than 15 feet, both ways. Additional drain trenches should be installed, as necessary, to drain all isolated under slab areas. Four-inch diameter perforated pipe (SDR 35 or better) sloped to drain to outlets by gravity should be placed in the bottom of the trenches. Slab underdrain trenches should be backfilled to subgrade level with clean, free draining slab rock. An illustration of this system is shown on Plate 23. If slab underdrains are not used, it should be anticipated that water will enter the slab rock, permeate through the concrete slab and ruin floor coverings.

Maintenance

Periodic land maintenance will be required. Surface and subsurface drainage facilities should be checked frequently, and cleaned and maintained as necessary or at least annually. A dense growth of deep-rooted ground cover must be maintained on all slopes to reduce sloughing and erosion. Sloughing and erosion that occurs must be repaired promptly before it can enlarge.

Supplemental Services

Pre-Bid Meeting

It has been our experience that contractors bidding on the project often contact us to discuss the geotechnical aspects. Informal contacts between RGH and an individual contractor could result in incomplete or misinterpreted information being provided to the contractor. Therefore,

we recommend a pre-bid meeting be held to answer any questions about the report prior to submittal of bids. If this is not possible, questions or clarifications regarding this report should be directed to the project owner or their designated representative. After consultation with RGH, the project owner or their representative should provide clarifications or additional information to all contractors bidding the job.

Plan and Specifications Review

Coordination between the design team and the geotechnical engineer is recommended to assure that the design is compatible with the soil, geologic and groundwater conditions encountered during our study. RGH Consultants (RGH) recommends that we be retained to review the project plans and specifications to determine if they are consistent with our recommendations. In the event we are not retained to perform this recommended review, we will assume no responsibility for misinterpretation of our recommendations.

Construction Observation and Testing

Prior to construction, a meeting should be held at the site that includes, but is not limited to, the owner or owner's representative, the general contractor, the grading contractor, the foundation contractor, the underground contractor, any specialty contractors, the project civil engineer, other members of the project design team and RGH. This meeting should serve as a time to discuss and answer questions regarding the recommendations presented herein and to establish the coordination procedure between the contractors and RGH.

In addition, we should be retained to monitor all soil related work during construction, including:

- Site stripping, over-excavation, grading, and compaction of near surface soil;
- Placement of all engineered fill and trench backfill with verification field and laboratory testing;
- Observation of all foundation excavations, including pier drilling; and
- Observation of foundation and subdrain installations.

If, during construction, we observe subsurface conditions different from those encountered during the explorations, we should be allowed to amend our recommendations accordingly. If different conditions are observed by others, or appear to be present beneath excavations, RGH should be advised at once so that these conditions may be evaluated and our recommendations reviewed and updated, if warranted. The validity of recommendations made in this report is contingent upon our being notified and retained to review the changed conditions.

If more than 18 months have elapsed between the submission of this report and the start of work at the site, or if conditions have changed because of natural causes or construction operations at, or adjacent to, the site, the recommendations made in this report may no longer be valid or appropriate. In such case, we recommend that we be retained to review this report and verify the applicability of the conclusions and recommendations or modify the same considering the time lapsed or changed conditions. The validity of recommendations made in this report is contingent upon such review.

These supplemental services are performed on an as-requested basis and are in addition to this geotechnical study. We cannot accept responsibility for items that we are not notified to observe or for changed conditions we are not allowed to review.

LIMITATIONS

This report has been prepared by RGH for the exclusive use of the Biale Family and their consultants as an aid in the design and construction of the proposed improvements described in this report.

The validity of the recommendations contained in this report depends upon an adequate testing and monitoring program during the construction phase. Unless the construction monitoring and testing program is provided by our firm, we will not be held responsible for compliance with design recommendations presented in this report and other addendum submitted as part of this report.

Our services consist of professional opinions and conclusions developed in accordance with generally accepted geotechnical engineering principles and practices. We provide no warranty, either expressed or implied. Our conclusions and recommendations are based on the information provided to us regarding the proposed construction, the results of our field exploration, laboratory testing program, and professional judgment. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of construction.

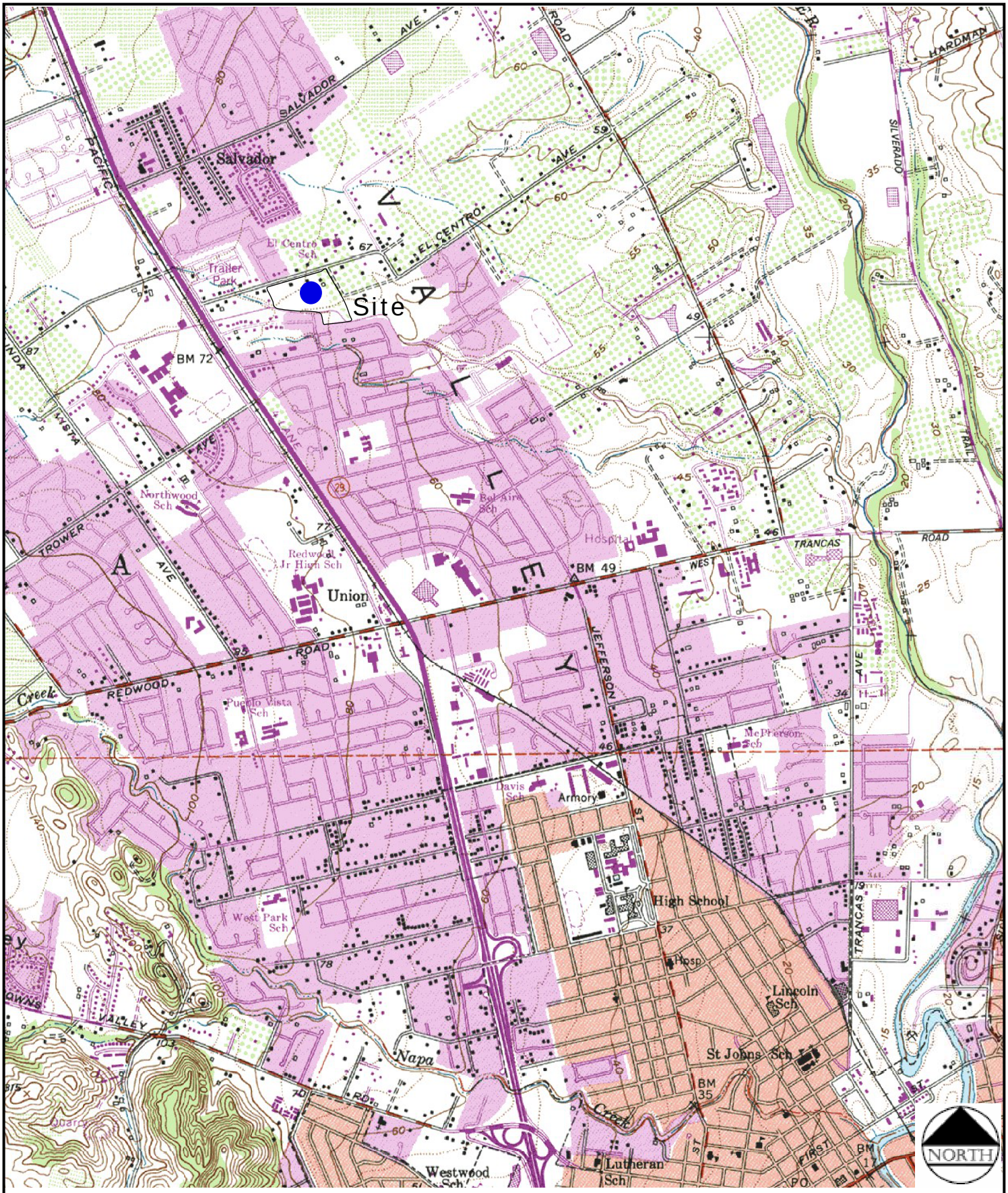
The borings represent the subsurface conditions at the locations and on the date indicated. It is not warranted that they are representative of such conditions elsewhere or at other times. Site conditions and cultural features described in the text of this report are those existing at the time of our field exploration on October 30 and December 19, 2017, and may not necessarily be the same or comparable at other times.

The scope of our services did not include an environmental assessment or a study of the presence or absence of toxic mold and/or hazardous, toxic or corrosive materials in the soil, surface water, groundwater or air (on, below or around this site), nor did it include an evaluation or study for the presence or absence of wetlands. These studies should be conducted under separate cover, scope and fee and should be provided by a qualified expert in those fields.

APPENDIX A - PLATES

LIST OF PLATES

Plate 1	Site Location Map
Plate 2	Exploration Plan
Plates 3 through 14	Logs of Borings B-1 through B-12
Plate 15	Soil Classification Chart and Key to Test Data
Plate 16	Classification Test Data
Plates 17 and 18	Particle Size Analysis Test Data
Plates 19 through 21	Strength Test Data
Plate 22	Resistance (R) Value Data
Plate 23	Typical Subdrain Details Illustration



Reference: Maptech Topoquad, Napa, California Quadrangle

Scale: 1" = 2000'

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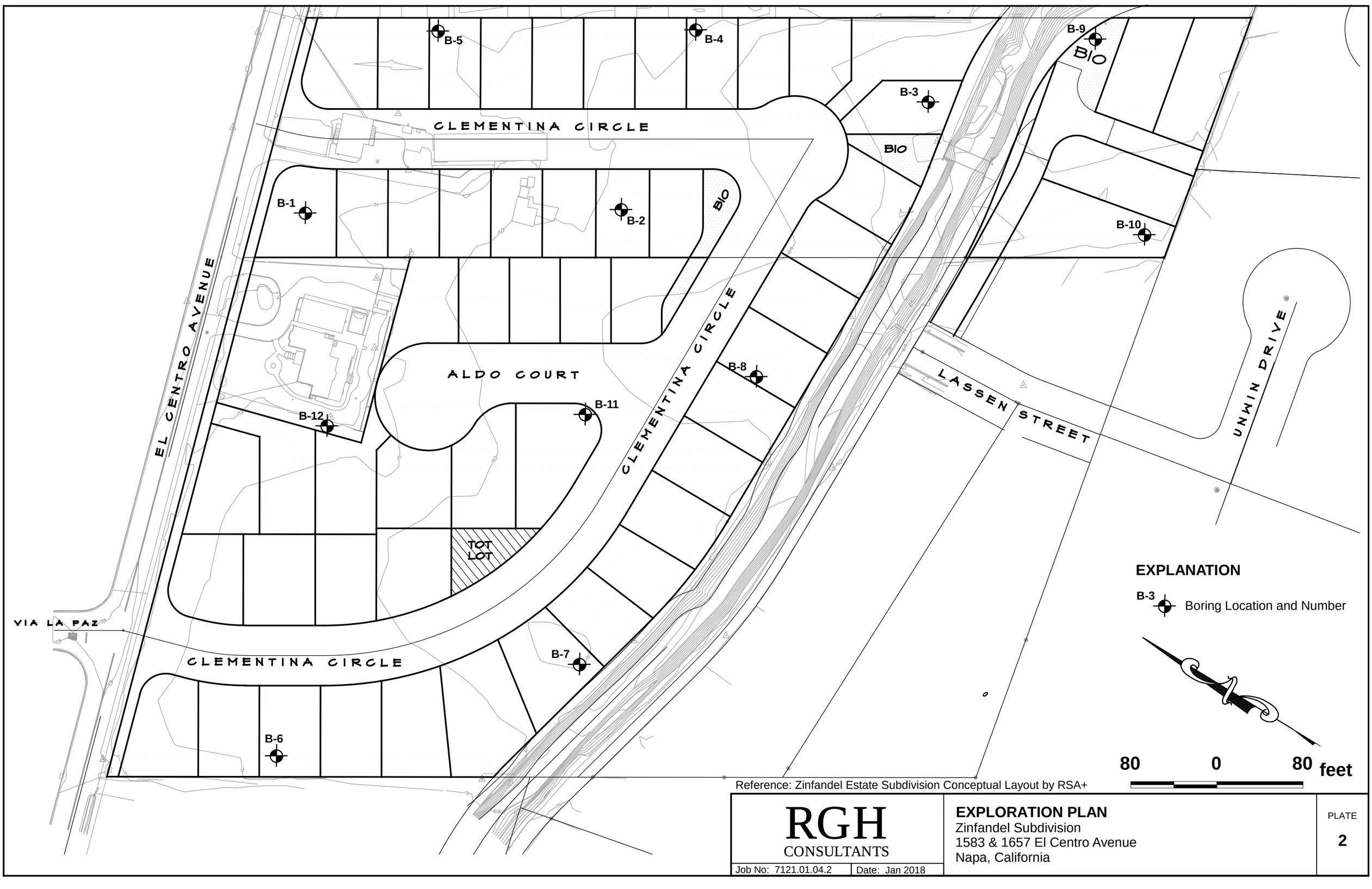
Job No: 7121.01.04.2 | Date: JAN 2018

SITE LOCATION MAP
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE
1



Reference: Zinfandel Estate Subdivision Conceptual Layout by RSA+

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EXPLORATION PLAN
Zinfandel Subdivision
1583 & 1657 El Centro Avenue
Napa, California

PLATE
2

Date(s) Drilled **10/30/17**	Logged By **KU**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **6-inch**	Total Depth of Borehole **15 1/2 feet**
Drill Rig Type **Mobile B-53**	Drilling Contractor **Pearson Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **11 1/2 feet**	Sampling Method(s) **Modified California**	Hammer Data **140 lb., 30-inch drop auto-trip hammer**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				BROWN SANDY CLAY (CL), very stiff, dry, with small gravels, mottled orange								
			17										
			10		becomes dark brown, stiff								
	5												
			13		LIGHT BROWN CLAY WITH SAND (CH), stiff, moist	105.2	21.4						Su = 2672 psf
	10		12		BROWN CLAYEY SAND WITH GRAVEL (SC), medium dense, moist ▽			17.9					
					LIGHT BROWN CLAY (CH), very stiff, moist, mottled orange								
	15		20		Boring terminated at 15 1/2 feet. Water encountered at 11 1/2 feet during drilling.								

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LOG OF BORING B-1
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **3**

Date(s) Drilled **10/30/17**	Logged By **KU**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **6-inch**	Total Depth of Borehole **15 feet**
Drill Rig Type **Mobile B-53**	Drilling Contractor **Pearson Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **9 1/2 feet**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140 lb., 30-inch drop auto-trip hammer**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				LIGHT BROWN CLAY (CL), very stiff, dry, with rootlets								
			28										
					LIGHT BROWN CLAY WITH SAND (CH), stiff, dry, with rootlets, mottled orange								
			15			110.8	18.3						Su = 11948 psf
	5				becomes very stiff, no rootlets								
			25			103.4	21.0						Su = 6290 psf
					LIGHT BROWN SANDY CLAY WITH GRAVEL (CL), stiff, dry, gravels under 1/2" diameter								
			12										
	10												
					DARK BROWN SAND WITH CLAY (SP-SC), medium dense, wet, with gravel, coarse sand			10.3					
			10										
					GRAY-BROWN CLAY WITH SAND (CH), very stiff, moist to wet								
	15		20		Boring terminated at 15 feet. Water encountered at 14 feet during drilling, rose to 9 1/2 feet at end of day.								

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LOG OF BORING B-2
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **4**

Date(s) Drilled **10/30/17**	Logged By **KU**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **6-inch**	Total Depth of Borehole **12 1/2 feet**
Drill Rig Type **Mobile B-53**	Drilling Contractor **Pearson Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **No Water Encountered**	Sampling Method(s) **Modified California**	Hammer Data **140 lb., 30-inch drop auto-trip hammer**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				BROWN SANDY CLAY (CL), very stiff, dry, mottled white								
			21					65.4	17	37	58		
			22										
	5				becomes stiff, mottled orange								
			15										
			26		GRAY-BROWN CLAY WITH SAND (CH), very stiff, dry, mottled orange								
	10												
			14		GRAY-BROWN SANDY CLAY (CL), stiff, moist, mottled orange								
					Boring terminated at 12 1/2 feet. No free water encountered.								
	15												

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LOG OF BORING B-3
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **5**

Date(s) Drilled **10/30/17**	Logged By **KU**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **6-inch**	Total Depth of Borehole **14 1/2 feet**
Drill Rig Type **Mobile B-53**	Drilling Contractor **Pearson Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **13 feet**	Sampling Method(s) **Modified California**	Hammer Data **140 lb., 30-inch drop auto-trip hammer**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				BROWN CLAY (CL), hard, dry								
			40										
					BROWN CLAY WITH SAND (CH), very stiff, dry, mottled orange								
	5		20										
			23										
					becomes moist								
	10		23										
					GRAY-BROWN SANDY CLAY (CL), medium stiff, moist to wet ▽								
			10										
	15				Boring terminated at 14 1/2 feet. Water encountered at 13 feet during drilling.								

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LOG OF BORING B-4
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **6**

Date(s) Drilled **10/30/17**	Logged By **KU**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **6-inch**	Total Depth of Borehole **11 feet**
Drill Rig Type **Mobile B-53**	Drilling Contractor **Pearson Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **No Water Encountered**	Sampling Method(s) **Modified California**	Hammer Data **140 lb., 30-inch drop auto-trip hammer**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				BROWN SANDY CLAY (CL), very stiff, dry								
			18					68.7	11	29	32		
			18		BROWN SANDY CLAY (CH), very stiff, dry								
	5				LIGHT BROWN CLAY (CH), very stiff, dry								
			29		some gravels encountered								
	10				LIGHT BROWN CLAY (CH), stiff, moist								
			15		Boring terminated at 11 feet. No free water encountered during drilling.								
	15												

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Job No: 7121.01.04.2 | Date: JAN 2018

LOG OF BORING B-5
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **7**

Date(s) Drilled **10/30/17**	Logged By **KU**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **6-inch**	Total Depth of Borehole **15 feet**
Drill Rig Type **Mobile B-53**	Drilling Contractor **Pearson Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **9 1/2 feet**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140 lb., 30-inch drop auto-trip hammer**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				BROWN CLAY WITH SAND (CL), very stiff, dry, mottled orange								
			24										
					becomes very stiff, with trace gravel								
			13										
	5				becomes very stiff, with fine gravel								
			20										
					BROWN CLAYEY SAND WITH GRAVEL (SC), medium dense, wet, larger gravels at 9 1/2 feet			27.5	30	51			
			16										
	10				DARK BROWN SAND WITH CLAY (SP-SC), medium dense, wet, with gravel			10.9					
			10										
	15		9		BROWN CLAY WITH SAND (CL), medium stiff, wet, mottled orange								
					Boring terminated at 15 feet. Water encountered at 9 1/2 feet during drilling, rose to 9 feet.								

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Job No: 7121.01.04.2 | Date: JAN 2018

LOG OF BORING B-6
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **8**

Date(s) Drilled **10/30/17**	Logged By **KU**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **6-inch**	Total Depth of Borehole **14 1/2 feet**
Drill Rig Type **Mobile B-53**	Drilling Contractor **Pearson Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **8 feet**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140 lb., 30-inch drop auto-trip hammer**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				BROWN CLAY WITH SAND (CL), stiff, dry, with rootlets								
			12										
			14		no rootlets								
	5				DARK BROWN CLAY (CH), very stiff, moist, mottled orange								
			19		▽								
					BROWN SAND WITH CLAY AND GRAVEL (SP-SC), medium dense, wet, coarse, subangular gravel			12.0					
	10		16										
			13										
			11		BROWN CLAY WITH GRAVEL (CL), stiff, wet								
	15				Boring terminated at 14 1/2 feet. Water encountered at 8 feet during drilling.								

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Job No: 7121.01.04.2 | Date: JAN 2018

LOG OF BORING B-7
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **9**

Date(s) Drilled **10/30/17**	Logged By **KU**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **6-inch**	Total Depth of Borehole **12 1/2 feet**
Drill Rig Type **Mobile B-53**	Drilling Contractor **Pearson Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **7 feet**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140 lb., 30-inch drop auto-trip hammer**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				LIGHT BROWN CLAY WITH SAND (CL), very stiff, dry								
			17										
			13		becomes stiff								
	5				BROWN CLAY (CH), very stiff, dry, with gravel and fine sand								
			17		▽								
					BROWN SAND WITH CLAY AND GRAVEL (SP-SC), medium dense, wet, coarse, subangular gravel								
	10		14										
			20		LIGHT BROWN SANDY CLAY WITH GRAVEL (CL), very stiff, wet, with coarse sand and fine gravel								
					Boring terminated at 12 1/2 feet. Water encountered at 7 feet during drilling.								
	15												

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Job No: 7121.01.04.2 | Date: JAN 2018

LOG OF BORING B-8
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **10**

Date(s) Drilled **12/19/17**	Logged By **JNK**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **4-inch**	Total Depth of Borehole **16 1/2 feet**
Drill Rig Type **Simco**	Drilling Contractor **Taber Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **13 1/2 feet**	Sampling Method(s) **Modified California, Not retained, SPT**	Hammer Data **140 lb., 30-inch drop rope and cathead**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				BROWN SANDY CLAY (CL), very stiff, moist, with few coarse sands, weak and porous								
			16		BROWN SANDY CLAY (CL), very stiff, moist, with few coarse sands								
			19		GRAY-BROWN SANDY CLAY (CH), very stiff, moist, with well-rounded coarse sand and fine gravel								
	5		17		mottled orange at 6 1/2 feet, large gravel from 6 1/2 to 7 1/2 feet								
	10		13										
			7		GRAY-BROWN CLAYEY SAND (SC), loose, wet, with gravel, fine to coarse sand								
	15		9		GRAY-BROWN SANDY CLAY (CH), stiff, moist								
					Boring terminated at 16 1/2 feet. Water encountered at 13 1/2 feet during drilling.								

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Job No: 7121.01.04.2 | Date: JAN 2018

LOG OF BORING B-9
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **11**

Date(s) Drilled **12/19/17**	Logged By **JNK**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **4-inch**	Total Depth of Borehole **18 1/2 feet**
Drill Rig Type **Simco**	Drilling Contractor **Taber Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **12 feet**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140 lb., 30-inch drop rope and cathead**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				DARK BROWN SANDY CLAY (CL), stiff, moist, weak and porous to 1 1/2 feet, few coarse sands and gravel								
			10										
					GRAY BROWN SANDY CLAY (CL), very stiff to hard, moist, with coarse sand and fine to coarse gravel; large gravel at 3 feet								
			31										
	5												
			34										
					MOTTLED GRAY AND ORANGE SANDY CLAY (CH), stiff, moist								
	10		9										
					▽								
					GRAY-BROWN CLAYEY SAND WITH GRAVEL (SC), medium dense, wet, fine to coarse gravel								
			16					12.9					
	15												
			13										
					GRAY-BROWN CLAYEY GRAVEL (GC), dense, wet, fine to coarse gravel								
			44										
					Boring terminated at 18 1/2 feet. Water encountered at 12 feet during drilling.								

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LOG OF BORING B-10
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **12**

Date(s) Drilled **12/19/17**	Logged By **JNK**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **4-inch**	Total Depth of Borehole **15 1/2 feet**
Drill Rig Type **Simco**	Drilling Contractor **Taber Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **9 feet**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140 lb., 30-inch drop rope and cathead**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				DARK BROWN SANDY CLAY (CL), stiff, moist, weak and porous, with roots								
			15		GRAY MOTTLED ORANGE SANDY CLAY (CL), medium stiff to stiff, moist, with coarse sand and gravel								
	5		10										
			8										
					▽								
	10		4		GRAY-BROWN CLAYEY SAND (SC), loose, wet, fine-grained			47.9					
			16		MOTTLED GRAY AND ORANGE SANDY CLAY (CL), stiff, moist, with fine sand and few gravels								
	15		13										
					Boring terminated at 15 1/2 feet. Water encountered at 9 feet during drilling.								

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LOG OF BORING B-11

Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **13**

Date(s) Drilled **12/19/17**	Logged By **JNK**	Checked By **EGC**
Drilling Method **Solid Stem Auger**	Drill Bit Size/Type **4-inch**	Total Depth of Borehole **13 feet**
Drill Rig Type **Simco**	Drilling Contractor **Taber Drilling**	Approximate Surface Elevation **Existing Ground Surface**
Groundwater Level and Date Measured **9 1/2 feet**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140 lb., 30-inch drop rope and cathead**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
	0				DARK BROWN SANDY CLAY (CL), stiff, moist, weak and porous, with few gravels								
			15		MOTTLED GRAY AND ORANGE SANDY CLAY (CL), stiff, to very stiff, moist, with abundant fine sand								
			28										
	5		12										
					MOTTLED GRAY AND ORANGE CLAY WITH SAND (CL), medium stiff, wet, fine grained sand								
	10		17		MOTTLED GRAY AND ORANGE SANDY CLAY (CH), stiff, moist, with abundant fine gravels			74.4					
			20		Boring terminated at 13 feet. Water encountered at 9 1/2 feet during drilling.								
	15												

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LOG OF BORING B-12
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **14**

Elevation (feet)	Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Graphic Log	MATERIAL DESCRIPTION	Dry Density (pcf)	Water Content (%)	% <#200 Sieve	PI, %	LL, %	Expansion Index (EI)	UC, ksf	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7	8	9	10	11	12	13	14

COLUMN DESCRIPTIONS

1 Elevation (feet): Elevation (MSL, feet).
2 Depth (feet): Depth in feet below the ground surface.
3 Sample Type: Type of soil sample collected at the depth interval shown.
4 Sampling Resistance, blows/ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
5 Graphic Log: Graphic depiction of the subsurface material encountered.
6 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7 Dry Density (pcf): Dry density, in pcf.
8 Water Content (%): Water content, percent.
9 % <#200 Sieve: % <#200 Sieve
10 PI, %: Plasticity Index, expressed as a water content.
11 LL, %: Liquid Limit, expressed as a water content.
12 Expansion Index (EI): Expansion Index (EI)
13 UC, ksf: Unconfined compressive strength, in kips per square foot.
14 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)
Su: Shear Strength

MATERIAL GRAPHIC SYMBOLS

Fat CLAY, CLAY w/SAND, SANDY CLAY (CH)
Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)
Clayey GRAVEL (GC)
Clayey SAND (SC)
Poorly graded SAND with Clay (SP-SC)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Bulk Sample
2.5-inch-ID Modified California w/ brass liners
2-inch-OD unlined split spoon (SPT)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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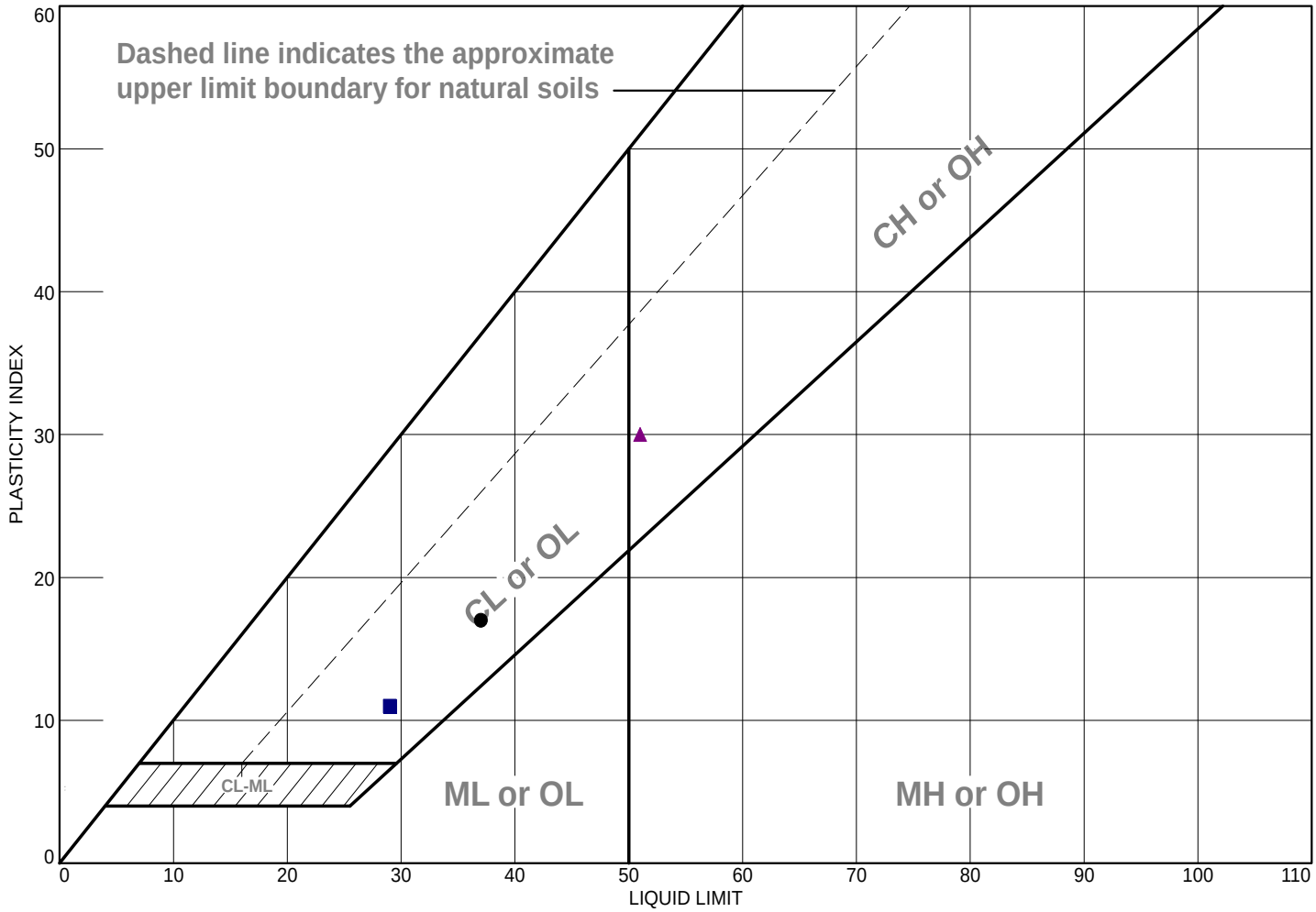
SOIL CLASSIFICATION AND KEY TO TEST DATA

Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE 15

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Brown Sandy Clay (CL)	37	20	17	82.5	65.4	CL
■	Brown Sandy Clay (CL)	29	18	11	88.3	68.7	CL
▲	Brown Clayey Sand W/ Gravel (SC)	51	21	30		27.5	SC

● **Source of Sample:** B-3 **Depth:** 1',1.5',3' & 3.5'
■ **Source of Sample:** B-5 **Depth:** 1.5' & 2.0'
▲ **Source of Sample:** B-6 **Depth:** 7.5' & 8.0'

Tested By: SCW **Checked By:** SEF

Remarks:
● Expansion Index = 58 (Medium)
■ Expansion Index = 32 (Low)
▲
Sampled: 10/30/2017
Received: 11/7/2017
Reported: 11/20/2017

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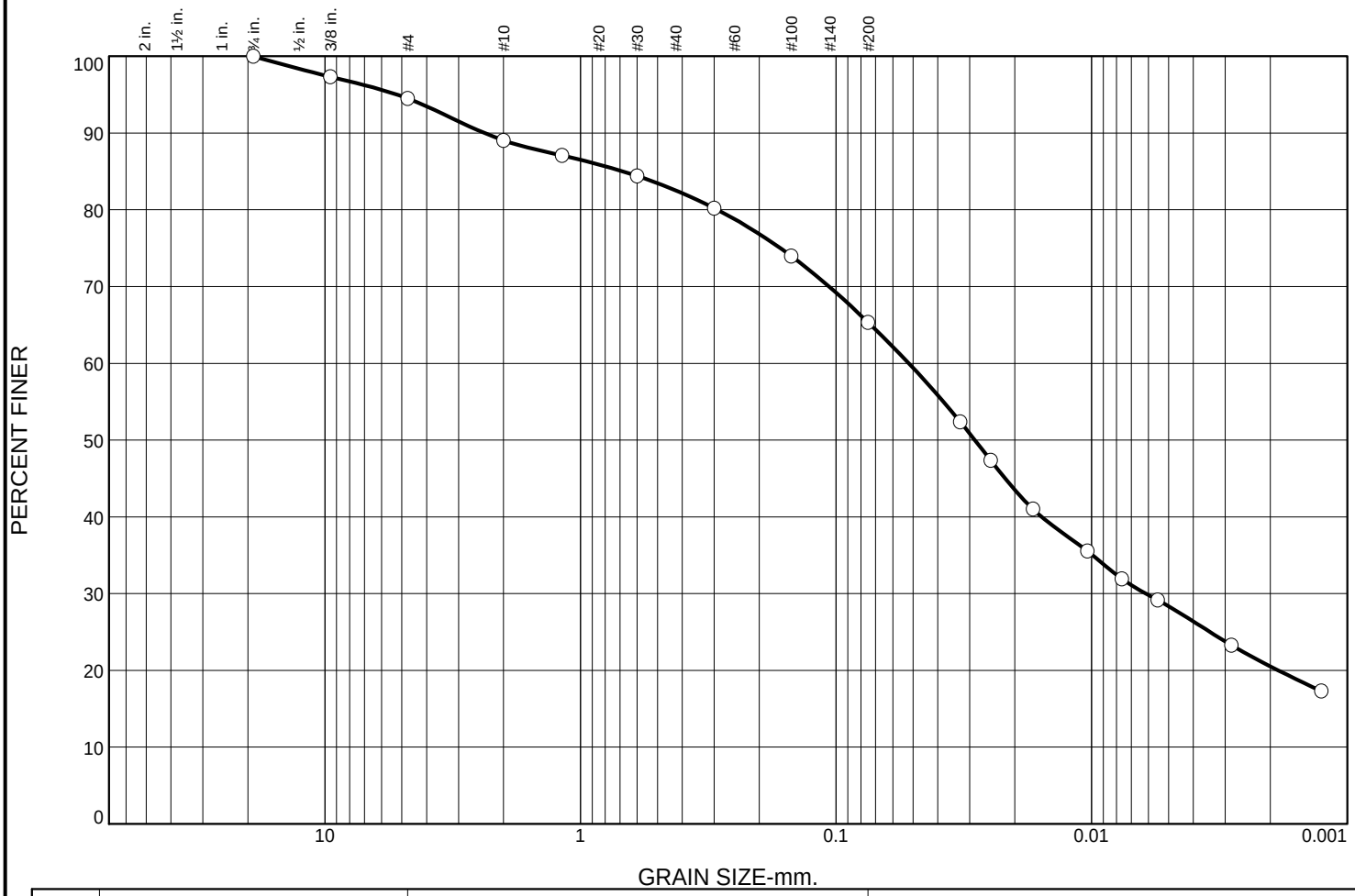
Job No: 7121.01.04.2 Date: JAN 2018

CLASSIFICATION TEST DATA
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE
16

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	5.5	5.5	6.5	17.1	37.1	28.3

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-3		1',1.5',3' &	Brown Sandy Clay (CL)	CL
			3.5'	Sampled: 10/30/2017	
				Received: 11/7/2017	
				Reported: 11/20/2017	

Tested By: SCW **Checked By:** SEF

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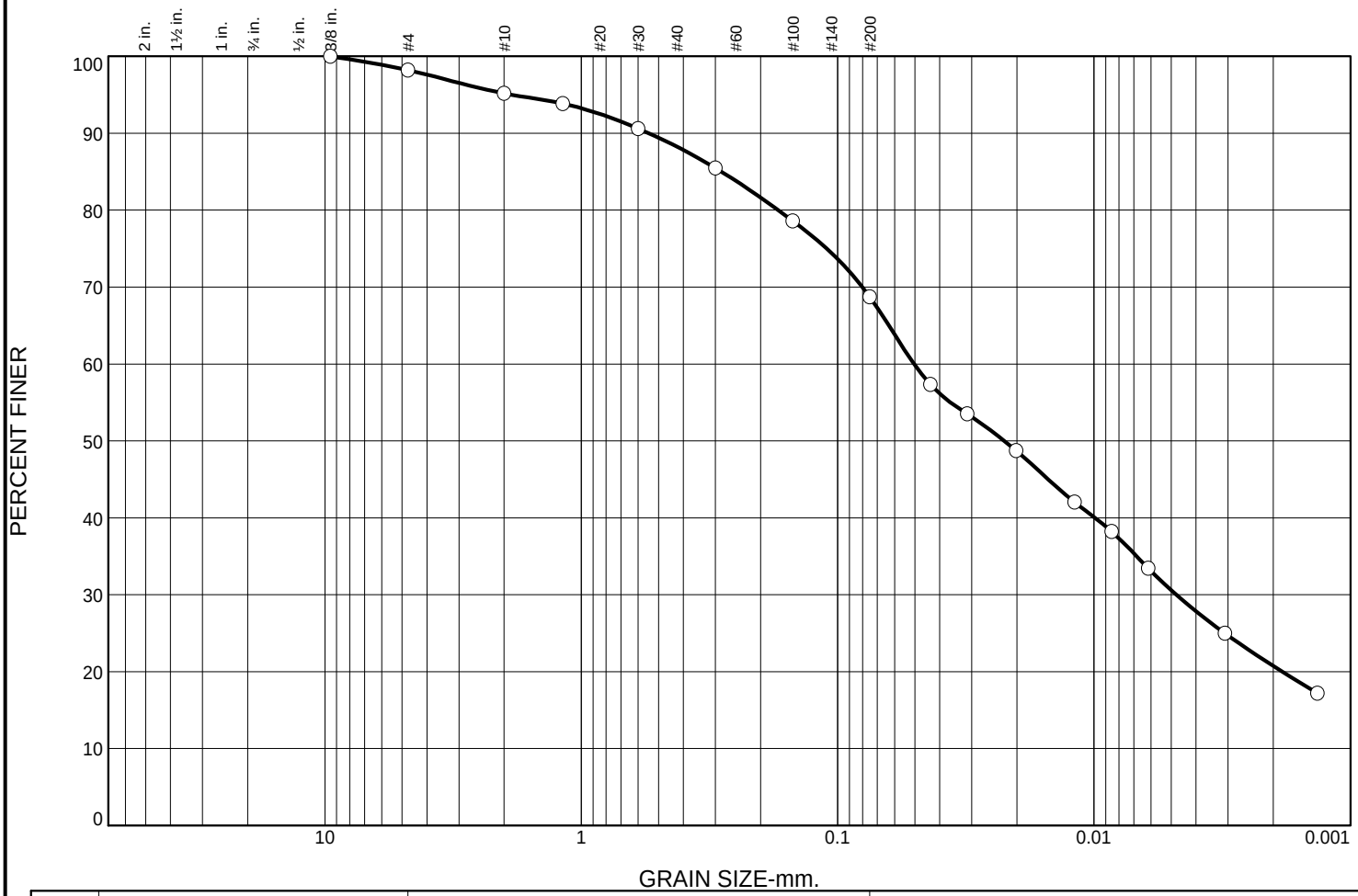
Job No: 7121.01.04.2 Date: JAN 2018

PARTICLE SIZE DISTRIBUTION
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE **17**

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.8	3.0	6.9	19.6	38.1	30.6

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-5		1.5' & 2.0'	Brown Sandy Clay (CL)	CL
				Sampled: 10/30/2017	
				Received: 11/7/2017	
				Reported: 11/20/2017	

Tested By: SCW **Checked By:** SEF

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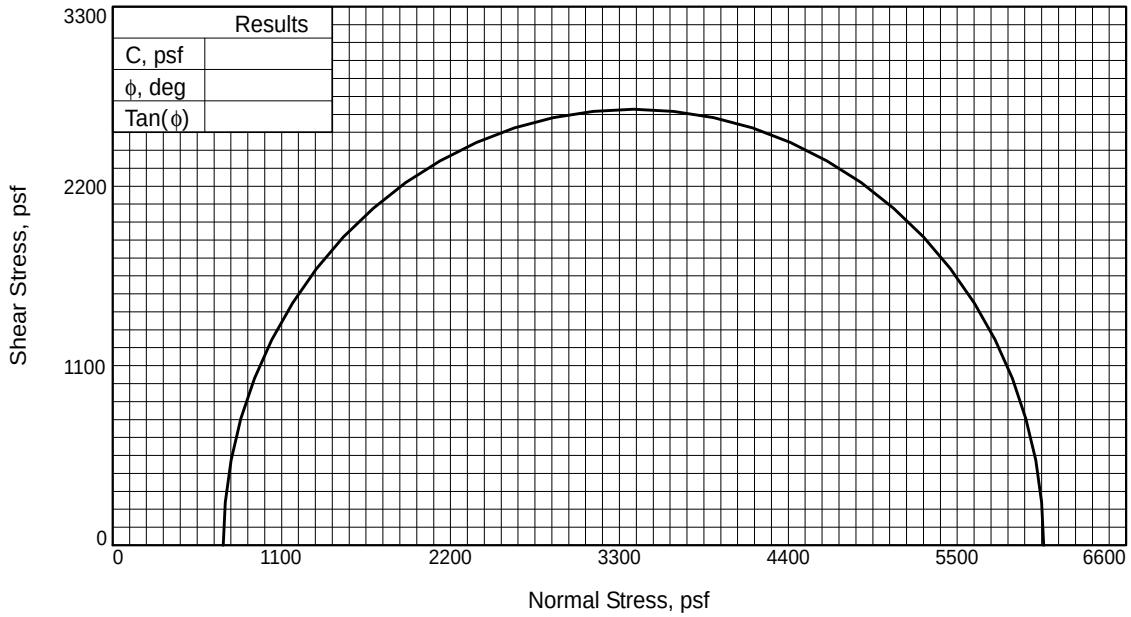
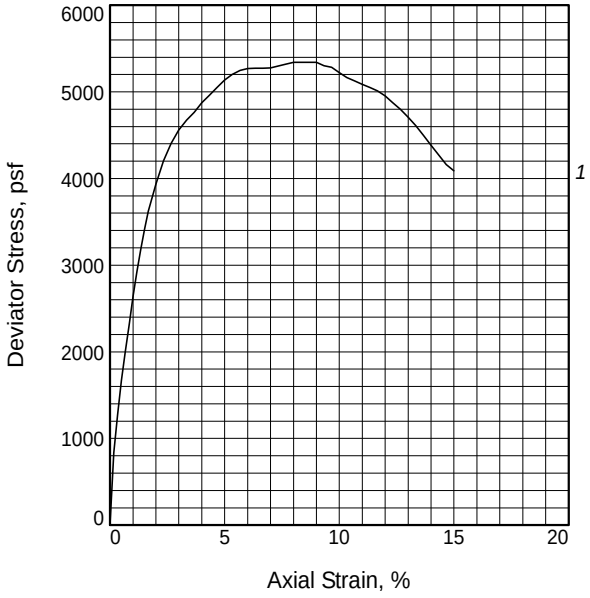
Job No: 7121.01.04.2 Date: JAN 2018

PARTICLE SIZE DISTRIBUTION
Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE
18





Sample No.		1
Initial	Water Content, %	21.4
	Dry Density, pcf	105.2
	Saturation, %	96.0
	Void Ratio	0.6019
	Diameter, in.	2.42
	Height, in.	6.00
At Test	Water Content, %	21.4
	Dry Density, pcf	105.2
	Saturation, %	96.0
	Void Ratio	0.6019
	Diameter, in.	2.42
	Height, in.	6.00
Strain rate, in./min.		0.060
Back Pressure, psf		0
Cell Pressure, psf		720
Fail. Stress, psf		5343
Strain, %		9.0
Ult. Stress, psf		5343
Strain, %		9.0
σ_1 Failure, psf		6063
σ_3 Failure, psf		720

Type of Test:
Unconsolidated Undrained

Sample Type: Tube

Description: Brown Sandy Clay (CH)

Assumed Specific Gravity= 2.70

Tested By: SCW

Checked By: SEF

Client: RGH Consultants

Project: Zinfandel Subdivision

Source of Sample: B-1 **Depth:** 6.0'

Proj. No.: 7121.01.04.2 **Date Sampled:** 10/30/2017

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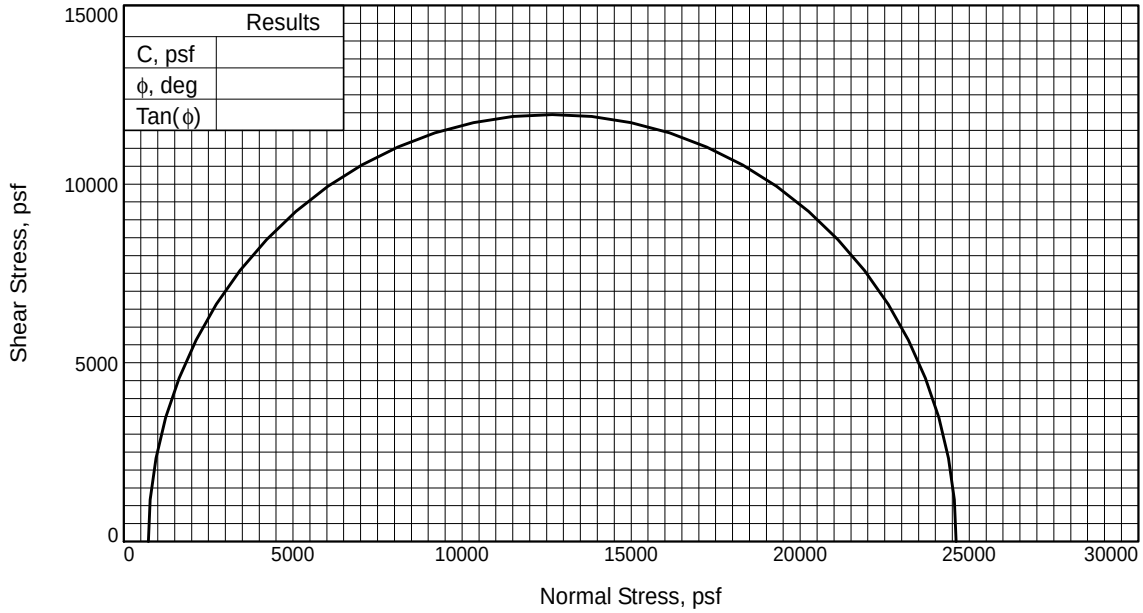
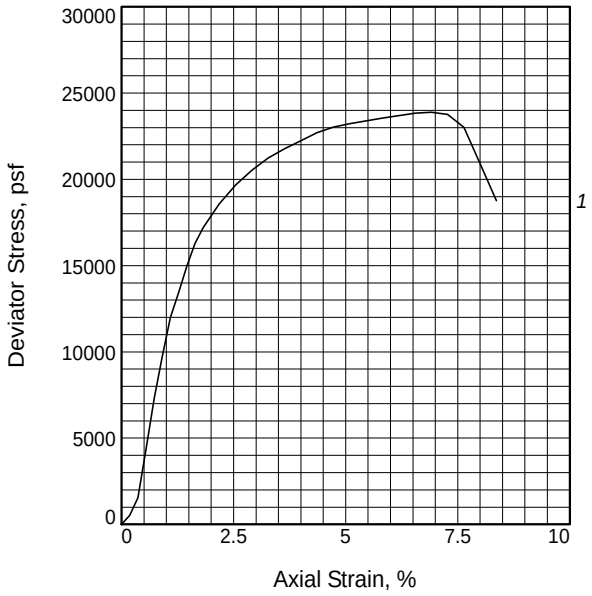
Job No: 7121.01.04.2 | Date: JAN 2018

STRENGTH TEST DATA

Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE
19





Sample No.		1
Initial	Water Content, %	18.3
	Dry Density, pcf	110.8
	Saturation, %	94.6
	Void Ratio	0.5210
	Diameter, in.	2.42
	Height, in.	5.50
At Test	Water Content, %	18.3
	Dry Density, pcf	110.8
	Saturation, %	94.6
	Void Ratio	0.5210
	Diameter, in.	2.42
	Height, in.	5.50
Strain rate, in./min.		0.060
Back Pressure, psf		0
Cell Pressure, psf		720
Fail. Stress, psf		23896
Strain, %		6.9
Ult. Stress, psf		23896
Strain, %		6.9
σ_1 Failure, psf		24616
σ_3 Failure, psf		720

Type of Test:
Unconsolidated Undrained

Sample Type: Tube

Description: Brown Clay W/ Sand (CH)

Assumed Specific Gravity= 2.70

Tested By: SCW

Checked By: SEF

Client: RGH Consultants

Project: Zinfandel Subdivision

Source of Sample: B-2 **Depth:** 3.0'

Proj. No.: 7121.01.04.2 **Date Sampled:** 10/30/2017

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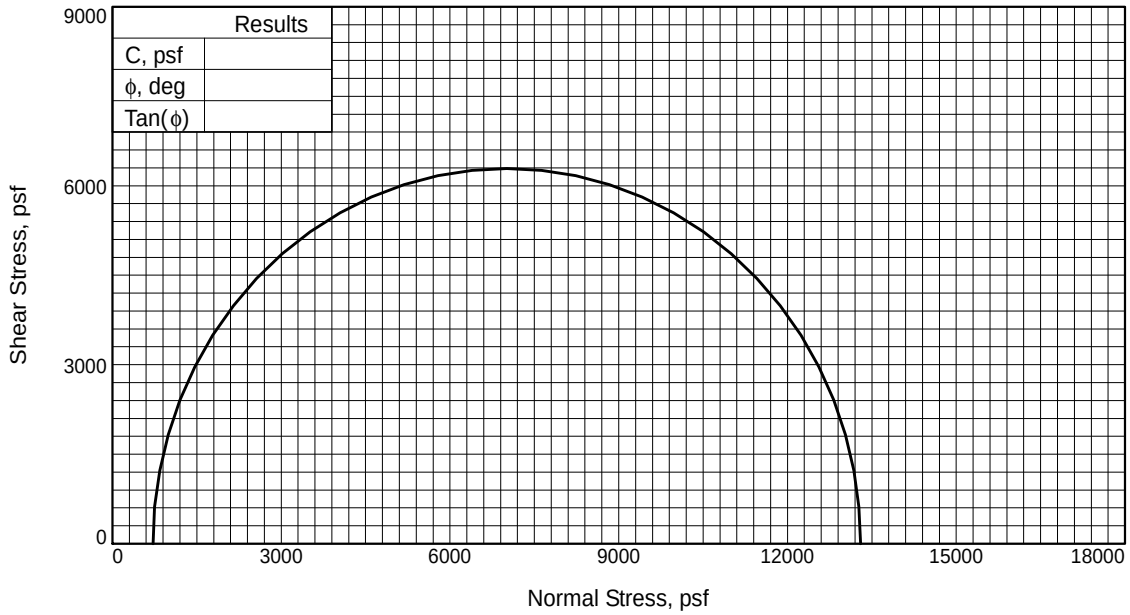
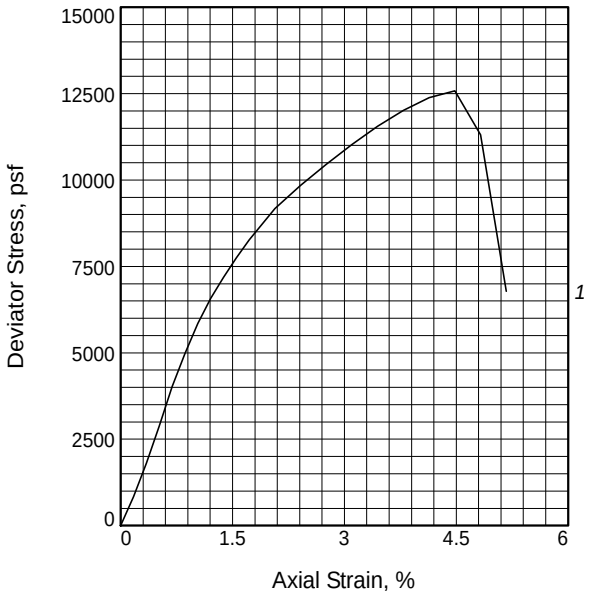
Job No: 7121.01.04.2 | Date: JAN 2018

STRENGTH TEST DATA

Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE
20





Sample No.		1
Initial	Water Content, %	21.0
	Dry Density, pcf	103.4
	Saturation, %	90.1
	Void Ratio	0.6297
	Diameter, in.	2.39
	Height, in.	5.80
At Test	Water Content, %	21.0
	Dry Density, pcf	103.4
	Saturation, %	90.1
	Void Ratio	0.6297
	Diameter, in.	2.39
	Height, in.	5.80
Strain rate, in./min.		0.060
Back Pressure, psf		0
Cell Pressure, psf		720
Fail. Stress, psf		12580
Strain, %		4.5
Ult. Stress, psf		12580
Strain, %		4.5
σ_1 Failure, psf		13300
σ_3 Failure, psf		720

Type of Test:
Unconsolidated Undrained

Sample Type: Tube

Description: Brown Clay W/ Sand (CH)

Assumed Specific Gravity= 2.70

Tested By: SCW

Checked By: SEF

Client: RGH Consultants

Project: Zinfandel Subdivision

Source of Sample: B-2 **Depth:** 5.0'

Proj. No.: 7121.01.04.2 **Date Sampled:** 10/30/2017

RGH
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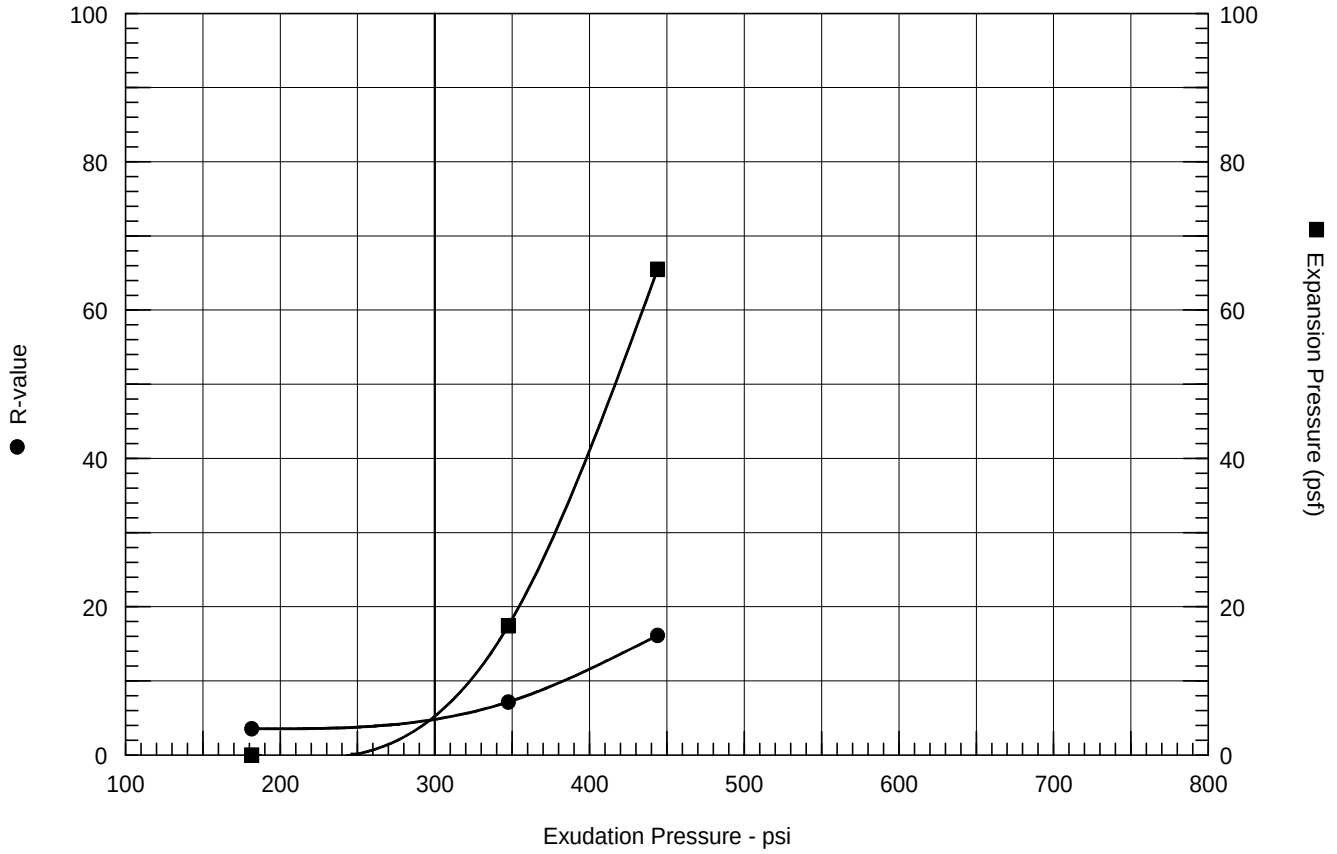
Job No: 7121.01.04.2 | Date: JAN 2018

STRENGTH TEST DATA

Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE
21

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - ASTM D2844

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psf	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	85	109.3	17.6	17	137	2.60	348	7	7
2	35	105.2	20.0	0	148	2.54	182	4	4
3	185	116.1	15.5	65	124	2.46	444	16	16

Test Results	Material Description
R-value at 300 psi exudation pressure = 5 **Exp. pressure at 300 psi exudation pressure =** 5 psf	Brown Clay (CL)

Project No.: 7121.01.04.2
Project: Zinfandel Subdivision
Source of Sample: B-1,5,6 & 7 Composite **Depth:** 0.5'-3.0'
Date: 11/17/2017

Tested by: SEF
Checked by: SCW
Remarks:
Possible (CH)
Sampled 10/30/17
Received 11/7/17
Reported 11/17/17

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Job No: 7121.01.04.2 | Date: JAN 2018

R-VALUE TEST RESULTS

Zinfandel Subdivision
1583 / 1657 El Centro Avenue
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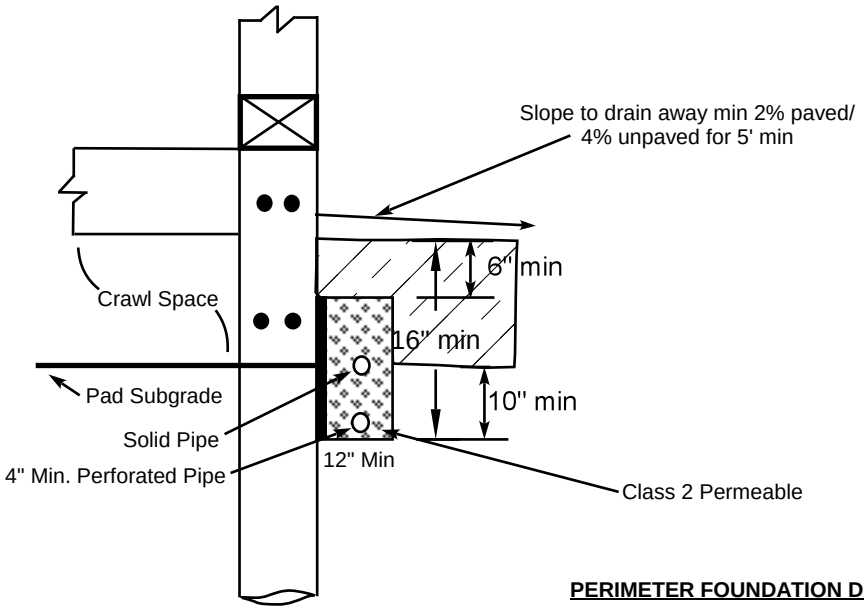
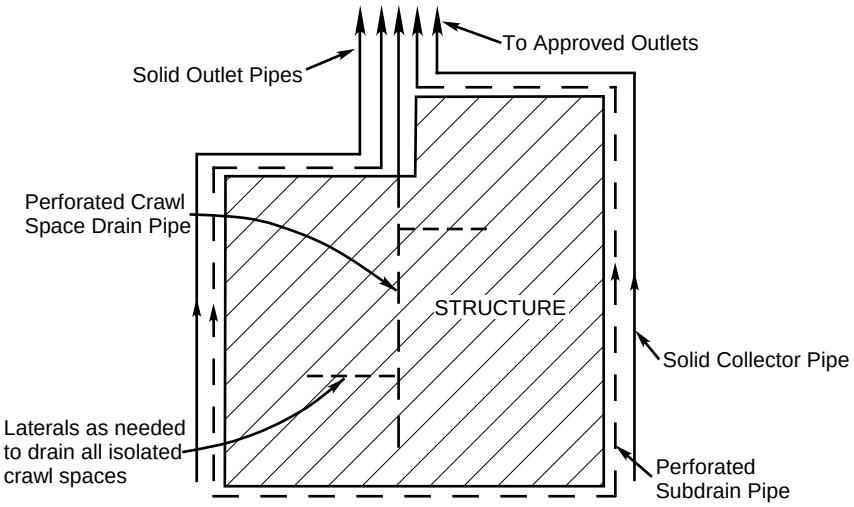
PLATE
22

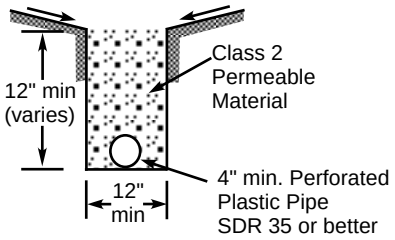


PERIMETER FOUNDATION DRAINS

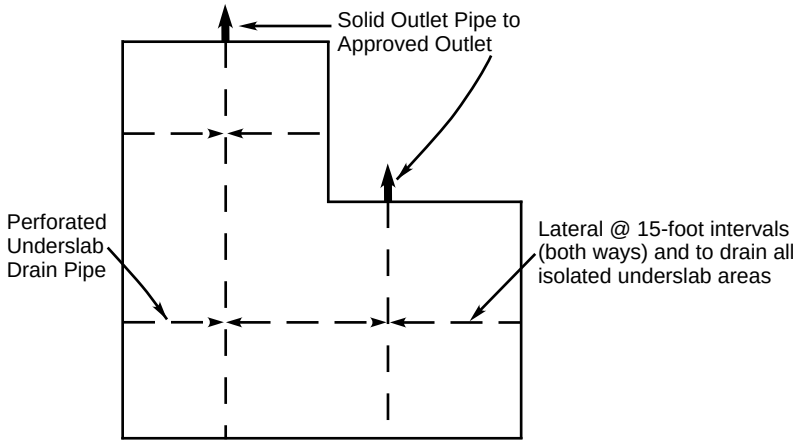
Pier And Grade Beam



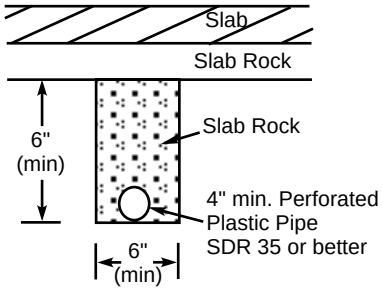
TYPICAL FOUNDATION DRAIN PLAN



CRAWL SPACE DRAIN



TYPICAL UNDERSLAB DRAIN PLAN



SLAB UNDERDRAIN

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Job No: 7121.01.04.2 | Date: JAN 2018

TYPICAL SUBDRAIN DETAILS

Zinfandel Subdivision
1583 / 1657 El Centro Avenue
Napa, California

PLATE

23

APPENDIX B - REFERENCES

American Society of Civil Engineers, 2010, Minimum Design Loads for Buildings and Other Structures, ASCE Standard ASCE/SEI 7-10.

Bortugno, E.J., 1982, Map Showing Recency of Faulting, Santa Rosa Quadrangle in Wagner and Bortugno, Geologic Map of the Santa Rosa Quadrangle: California Division of Mines and Geology, Regional Geologic Map Series, Map No. 2A, Santa Rosa Quadrangle, Scale 1:250,000.

Bryant, W.A., and Hart, E.W., Interim Revision 2007, Fault-Rupture Zones in California; California Geological Survey, Special Publication 42, p. 21 with Appendices A through F.

California Building Code, 2016, California Building Standard Commission.

Clahan, K.B., Wagner, D.L., Saucedo, G.J., Randolph-Loar, C.E., Sowers, J.M., 2004, Geologic Map of the Napa 7.5' Quadrangle, Napa County, California: A Digital Database.

Federal Emergency Management Agency, 2008, Flood Insurance Rate Map, Napa County, California, Community Panel No. 06055C0504E.

Idriss, I.M. and Boulanger, R.W., 2004, Semi-Empirical Procedures for Evaluating Liquefaction Potential During Earthquakes, Proceedings of the 11th ICSDEE and 3rd ICEGE, pp. 32-56.

Idriss, I.M. and Boulanger, R.W., 2008, Soil Liquefaction During Earthquakes.

Ishihara, K., and Yoshimine, M., 1992, Evaluation of settlements in sand deposits following liquefaction during earthquakes, *Soils and Foundations* 32(1), 173-88.

Natural Resources Conservation Service, United States Department of Agriculture, accessed November 6, 2017. Web Soil Survey, available online at http://websoilsurvey.nrcs.usda.gov/.

Petersen, et al., 1996, Probabilistic Seismic Hazard Assessment for the State of California, California Department of Conservation, Division of Mines and Geology, Open File Report 96-08.

Seed, H.B. and Idriss, I.M., 1982, Ground Motion and Soil Liquefaction During Earthquakes: Earthquake Engineering Research Institute, Berkeley, California.

Seed, H.B., Tokimatsu, K., Harder, L.F., and Chung, R.M., 1985, Influence of SPT Procedures in Soil Liquefaction Resistance Evaluations: Journal of Geotechnical Engineering Division, American Society of Civil Engineers, v. III, no. 12, December, p. 1425-1445.

Youd, T.L., and Idriss, I.M., and 19 others, 2001, Liquefaction Resistance of Soils: summary report from the 1996 NCEER and 1998 NCEER/NSF workshops on evaluation of liquefaction resistance of soils: ASCE Geotechnical and Geoenvironmental Journal, v. 127, no. 10, p. 817-833.

APPENDIX C - DISTRIBUTION

Biale Family (3,e)
c/o Randy Gularte
780 Trancas Street
Napa, CA 94558
RAGularte@heritagesir.com

SCL:EGC:scl:ejw

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FCS
An ADEC Innovation

D.2 - Stormwater Control Plan

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STORMWATER CONTROL PLAN FOR A REGULATED PROJECT

ZINFANDEL SUBDIVISION
1583 EL CENTRO AVENUE
NAPA, CALIFORNIA 94558

Prepared for:

Trinity Project, LLC

Project #4117017.0

September 15, 2023

1515 Fourth Street Napa, CA 94559 www.rsacivil.com 707.252.3301 v 707.252.4966 f

Table of Contents

I. Project Data 1
II. Setting 1
II.A. Project Location and Description 1
II.B. Existing Site Features and Conditions 2
II.C. Opportunities and Constraints for Stormwater Control 2
III. Low Impact Development Design Strategies 3
III.A. Optimization of Site Layout 3
III.B. Use of Permeable Pavements 3
III.C. Dispersal of Runoff to Pervious Areas 3
III.D. Stormwater Control Measures 4
IV. Documentation of Drainage Design 6
IV.A. Descriptions of Each Drainage Management Areas 6
IV.A.1. Drainage Management Areas 6
IV.A.2. Drainage Management Area Descriptions 6
IV.B. Tabulation and Sizing Calculations 7
V. Source Control Measures 7
V.A. Site activities and potential sources of pollutants 7
V.B. Potential Pollutant Sources and Source Control Measures 7
VI. Stormwater Facility Maintenance 10
VI.A. Ownership and Responsibility for Maintenance in Perpetuity 10
VI.B. Summary of Maintenance Requirements for Each Stormwater Facility 10
VII. Construction Plan E.12 Checklist 11
VIII. Certifications 11

TABLES

Table 1. Project Data Form

Table 2. Drainage Management Areas

Table 3. Potential Pollutant Sources and Source Control Measures

Table 4. Construction Plan E.12 Checklist

FIGURES

Figure 1. Vicinity Map

Figure 2. Existing Site Conditions

Figure 3. Bioretention Cross Section

ATTACHMENTS

1. Soil Classification

2. Stormwater Control Plan (Sheet TM9)

3. Provision E.12 Sizing Calculator Spreadsheet

I. Project Data

Table 1. Project Data Form

Project Name/Number	Zinfandel Subdivision / PL19-0016 / 4117017.0
Application Submittal Date	
Project Location	1583 El Centro Avenue Napa, California 94558 APN: Pending, Adjusted Parcel 2 per 2019-0016141
Project Phase No.	Not Applicable
Project Type and Description	Construction of a 51-lot single family residential subdivision including streets, driveways, utilities bioretention facilities and detention ponds.
Total Project Site Area	9.7 acres
Total New and Replaced Impervious Surface Area	199,285 sq. ft (including El Centro Avenue half street frontage & Lassen Street frontage)
Total Pre-Project Impervious Surface Area	26,197 sq. ft (including El Centro Avenue half street frontage & Lassen Street frontage)
Total Post-Project Impervious Surface Area	199,285 sq. ft (including El Centro Avenue half street frontage and Lassen Street frontage)

II. Setting

II.A. Project Location and Description

This project involves the demolition of an existing residential house and barn with asphalt driveway. The site will be developed to a 51-lot single family residential subdivision with public roads. This development is located at 1583 El Centro Avenue in Napa, California as shown in Figure 1 below.

Figure 1. Vicinity Map

The proposed use is consistent with the current RS 4 zoning. The project will include the construction of 51 residential houses, connecting public roads and installation of new public utilities along with stormwater quality control bioretention and detention facilities.

Refer to Attachment 2 for the overall scope of the project.

II.B. Existing Site Features and Conditions

The project site is irregular in shape and is generally flat. The site is currently used as vineyards with a residential house that fronts El Centro Avenue. The site is bounded by El Centro Avenue to the north and residential developments with public roads to the east, west and south. See Figure 2 below for existing site conditions.

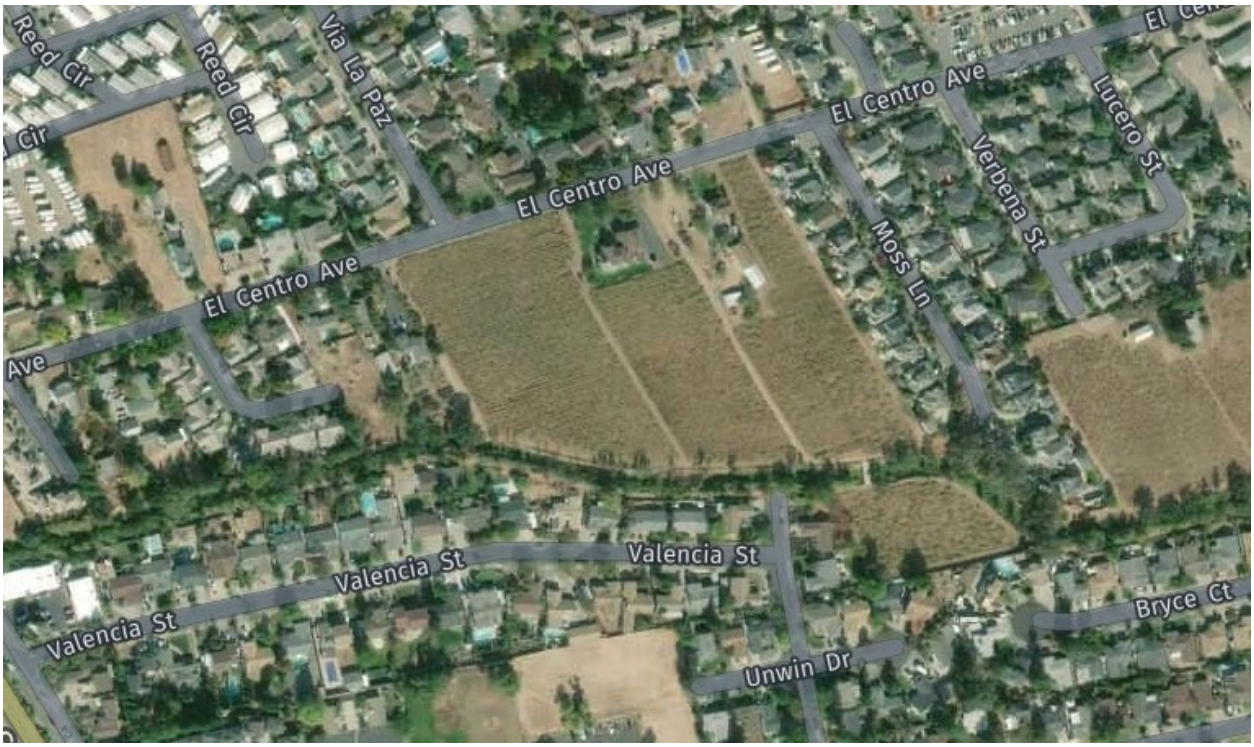


Figure 2. Existing Site Conditions

Mapping by the U.S. Conservation Service has classified soil over this project area as Clear Lake Clay (116) which is of the Hydraulic Soil Group D and Haire Loam (145) which is of the Hydraulic Soil Group D. Refer to Attachment 1 for Soils Map. Natural drainage from these parcels generally flows towards Salvador Channel. Stormwater is ultimately conveyed to the Napa River.

II.C. Opportunities and Constraints for Stormwater Control

Stormwater treatment facilities have been integrated into the planning, design, construction, operation, and maintenance of the proposed development. The following potential opportunities and constraints were considered in determining the best stormwater control design for this development.

Opportunities for this site are the availability of landscaped areas in the front and rear yards. Landscape areas on the parcels along Salvador Channel will be used as self-treating management areas since these

parcels will be predominantly pervious areas. Bioretention facilities will be installed to treat stormwater runoff prior to discharge from the site. Runoff will be conveyed to the bioretention facilities from roof downspouts and surface flows from the streets. Once in the bioretention basin, runoff will be treated via infiltration together with the pollutant retention capabilities of the plants in the facilities. These bioretention facilities will also be used for detention such that the proposed post-developed flow discharge from the development will be maintained at, or below pre-developed levels that will outfall to Salvador Channel. See Attachment 2 for locations of bioretention facilities.

Constraints will be the excavation of approximately 5,000 CY terrace along Salvador Channel to widen the channel laterally to mitigate development fill in the flood plain. In order to reduce the flood hazard to the development and other neighbors downstream, vegetation and native trees will be planted along this terrace to help prevent the land from eroding downstream. Additional channel restoration mitigation measures and plans approved by the City will be implemented to help reduce potential flood hazard.

III. Low Impact Development Design Strategies

III.A. Optimization of Site Layout

1. Limitation of development envelope
   The development of the houses will occur within the building setback lines per Section 17.08.030 of the City of Napa Municipal Code.
2. Preservation of natural drainage features
   Natural drainage consists of sheet flow over the ground surface that concentrates in man-made surface drainage elements such as ditches, gutters and onsite storm drain pipes. See constraints on Section II.C above.
3. Setbacks from creeks, wetlands, and riparian habitats
   Riparian setback from Salvador Channel to the maximum degree possible and at minimum as required by local ordinances.
4. Minimization of imperviousness
   Landscaping will be used in the front and rear yards. Impervious areas will be minimized to the maximum extent practicable.
5. Use of drainage as a design element
   Bioretention facilities are incorporated into the aesthetic landscape design of the site. Grading and storm drain locations have been designed to direct runoff to bioretention facilities.

III.B. Use of Permeable Pavements

Permeable pavements are not in the scope of this project.

III.C. Dispersal of Runoff to Pervious Areas

Stormwater runoff will be directed to landscaped areas.

III.D. Stormwater Control Measures

Runoff from the project site, including roof and paved areas, will be routed to four bioretention facilities (see Attachment 2). BRF #1 and #2 will also function as stormwater detention basins. All facilities are designed and will be constructed to the criteria in the BASMAA Post-Construction Manual (January 2019), including the following features (see Figure 3):

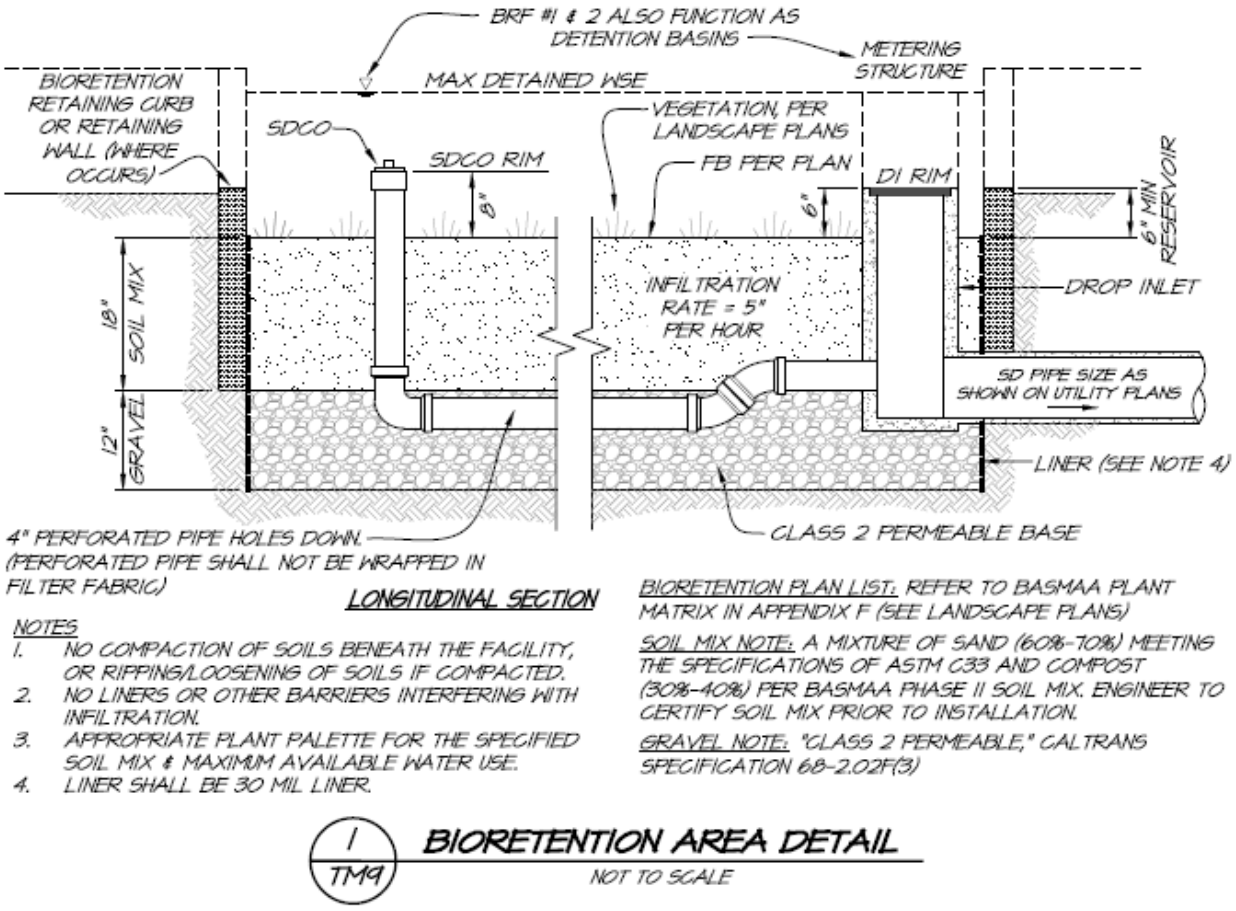


Figure 3. Bioretention Cross Section

- Surrounded by a concrete curb. Where adjacent to pavement, curbs will be thickened and an impermeable vertical cutoff wall will be included.
- Each layer built flat, level, and to elevations specified in the plans:
  - Bottom of Gravel Layer (BGL)
  - Top of Gravel Layer (TGL)
  - Top of Soil Layer (TSL)
  - Overflow Grate
  - Facility Rim
- 12 inches of Class 2 permeable, Caltrans specification 68-2.02F (3).

- 18 inches sand/compost mix meeting BASMAA specifications.
- 4-inch diameter PVC SDR 35 perforated pipe underdrain, installed with the invert at the top of the Class 2 permeable layer with holes facing down, and connected to the overflow structure at that same elevation.
- 6-inch-deep reservoir between top of soil elevation and overflow grate elevation.
- Concrete drop inlet with frame overflow structure, with grate set to specified elevation, connected to the on-site storm drain system.
- Vertical cutoff walls to protect adjacent pavement.
- Plantings selected for water conservation.
- Irrigation system on a separate zone, with drip emitters and "smart" irrigation controllers.
- Sign identifying the facility as a stormwater treatment facility.

Areas on the site which do not drain to a bioretention facility are the following (see Attachment 2 for reference):

- DMA 5 – The west portion of the private driveway along the Lassen Street frontage, totaling 700 square feet. Grading in this area must conform with existing street elevations. As a result, stormwater runoff from this DMA leaves the site untreated.
- DMA 6 – The southern flood terrace and maintenance path near lots 50-51, totaling 13,216 square feet. This DMA is considered as self-treating area (See Section 4.1 for BASMAA requirements for self-treating areas).
- DMA 7 – The northern flood terrace and access road near lots 2-19, totaling 45,697 square feet. This DMA is considered as self-treating area (See Section 4.1 for BASMAA requirements for self-treating areas).
- DMA 8 – The north portion of Lot 1, totaling 1,445 square feet. This DMA is considered as self-treating area (See Section 4.1 for BASMAA requirements for self-treating areas).
- DMA 9 – The north half street area of El Centro Avenue along Lot 1, totaling 3,734 square feet. Grading in this areas must conform with existing street elevations. As a result, stormwater runoff from this DMA leaves the site untreated.

The bioretention facilities that will collect and treat onsite stormwater will also function as Multi-Benefit Trash Treatment Systems in accordance with the State Water Board standards. They are designed to trap trash particles that are 5-mm and greater for the peak flow rate generated by the 1-year, 1-hour storm event from each drainage management area. The bioretention facilities will provide a 6" ponding reservoir per BASMAA requirements, which is sufficient depth such that the 1-year, 1-hour storm event will not reach the overflow elevations. Thus, all trash is captured at the surface of each bioretention facility. The overflow inlets have a grated lid for larger storm events.

IV. Documentation of Drainage Design

IV.A. Descriptions of Each Drainage Management Areas

IV.A.1. Drainage Management Areas

Table 2. Drainage Management Areas (DMAs) as shown on Attachment 2.

DMA Name	DMA $_{perv}$ (Pervious Area, square feet)	DMA $_{imp}$ (Impervious Area, square feet)	Pervious Pavers Area (square feet)	Total Area (square feet)	Bioretention Facility Name
1	129,479	161,020	--	298,293	BRF #1
2	13,038	13,866	--	27,627	BRF #2
3	8,587	14,637	--	23,876	BRF #3
4	1,713	4,400	--	6,306	BRF #4
5	54	646	--	700	Untreated
6	13,216	0	--	13,216	Self-Treating
7	44,209	1,488	--	45,697	Self-Treating
8	1,445	0	--	1,445	Self-Treating
9	506	3,228	--	3,734	Untreated

IV.A.2. Drainage Management Area Descriptions

DMA 1: Totaling 298,293 square feet, this DMA consists of Lots 2 to 19, 20 to 26, 29 to 46, 49, and portions of Lots 1, 27 to 28, 47, 48, and parcel A. It also includes Clementina Circle, a small portion of street of El Centro Avenue intersecting Clementina Circle along the project frontage. Runoff from the roof will drain out from downspouts to splash boxes that flows towards the street via landscape areas then along the street gutter toward the street catch basins then to a storm drain pipe that outfalls to BRF #1. This bioretention facility has a total treatment area of 7,794 square feet and will also function as a stormwater detention basin.

DMA 2: Totaling 27, 627 square feet, this DMA consists of Lots 50 to 51 and a large portion of the private driveway and parcel C. Runoff from the roof will drain out from downspouts to splash boxes that flows towards the street via landscape areas then along the driveway gutter toward the curb opening inlet adjacent to BRF #2. This bioretention facility has a total treatment area of 723 square feet and will also function as a stormwater detention basin.

DMA 3: Totaling 23,876 square feet, this DMA consists of portions of Lots 28, 47, 48 and APN 036-361-043 together with the half street frontage portion of El Centro Avenue along these areas. Runoff from the roof will drain out from downspouts to splash boxes that flows towards the street via landscape areas then along the street gutter toward the curb opening inlet adjacent to BRF #3. This bioretention facility has a total treatment area of 652 square feet.

DMA 4: Totaling 6,306 square feet, this DMA consists of a portion of Lot 27 together with the half street frontage portion of El Centro Avenue along this area. Runoff from the roof will drain from downspouts to splash boxes that flow toward the street via landscape areas then along the street gutter toward the curb opening inlet adjacent to BRF #4. This bioretention facility has a total treatment area of 193 square feet.

DMA 5: The west portion of the private driveway along the Lassen Street frontage, totaling 700 square feet, a small portion of parcel C. Grading in this area must conform with existing street elevations. As a result, stormwater runoff from this DMA leaves the site untreated.

DMA 6: The southern flood terrace and maintenance path near Lots 50 to 51, totaling 13,216 square feet, a portion of parcel C. This DMA is considered as self-treating area meeting the following BASMAA requirements: 1) There are no impervious areas or very small impervious area (5% or less) relative to the receiving pervious area; and, 2) Slopes are gentle enough to ensure runoff will be absorbed into the vegetation and soil.

DMA 7: The northern flood terrace and access road near Lots 2 to 19, totaling 45,697 square feet. This DMA is considered self-treating area meeting the following BASMAA requirements: 1) There are no impervious areas or very small impervious area (5% or less) relative to the receiving pervious area; and, 2) Slopes are gentle enough to ensure runoff will be absorbed into the vegetation and soil.

DMA 8: The north portion of Lot 1, totaling 1,445 square feet. This DMA is considered self-treating area meeting the following BASMAA requirements: 1) There are no impervious areas or very small impervious area (5% or less) relative to the receiving pervious area; and, 2) Slopes are gentle enough to ensure runoff will be absorbed into the vegetation and soil.

DMA 9: The north half street area of El Centro Avenue along Lot 1, totaling 3,734 square feet. Grading in these areas must conform with existing street elevations. As a result, stormwater runoff from this DMA leaves the site untreated.

IV.B. Tabulation and Sizing Calculations

Refer to Attachment 3 for Provision E.12 Sizing Calculator Spreadsheet.

V. Source Control Measures

V.A. Site activities and potential sources of pollutants

On-site activities that could potentially produce stormwater pollutants include:

- On-site storm drains
- Interior floor drains
- Pest control
- Landscaping
- Refuse areas
- Fire sprinkler test water
- Miscellaneous drain water
- Streets and sidewalks

V.B. Potential Pollutant Sources and Source Control Measures

The site activities and potential sources of pollutants for the Zinfandel Subdivision project are listed in Table 3, below.

Table 3. Potential Pollutant Sources and Source Control Measures

Potential Sources of Runoff Pollutants	Permanent Source Control BMPs	Operational Source Control BMPs
A. On-site storm drain inlets (unauthorized non-stormwater discharges and accidental spills or leaks)	☐ Mark all inlets with the words "No Dumping! Flows to River" or similar.	☐ Maintain and periodically repaint or replace inlet markings. ☐ Provide stormwater pollution prevention information to new site owners, lessees, or operators. ☐ See applicable operational BMPs in Fact Sheet SC-74, "Drainage System Maintenance."
B. Interior floor drains and elevator shaft sump pumps	☐ Interior floor drains and elevator shaft sump pumps will be plumbed to the sanitary sewer.	☐ Inspect and maintain drains to prevent blockages and overflow.
D_1. Need for future indoor & structural pest control	☐ Building design shall incorporate features that discourage entry of pests.	☐ Provide Integrated Pest Management information to owners, lessees, and operators.
D_2. Landscape / outdoor pesticide use / building and grounds maintenance	Final landscape plans will accomplish all of the following: ☐ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ☐ Minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. ☐ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ☐ Use pest-resistant plants, especially adjacent to hardscape. ☐ To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	☐ Maintain landscaping using minimum or no pesticides. ☐ See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance." ☐ Provide IPM information to new owners, lessees and operators.
G. Refuse areas	☐ Refuse areas shall be paved with an impervious surface, designed not to allow run-on from adjoining areas, and screened to prevent off-site transport of trash. ☐ Refuse areas shall contain a roof to minimize direct precipitation. ☐ No drain connections shall be made to the Refuse area.	☐ Provide adequate number of receptacles. ☐ Inspect receptacles regularly; repair or replace leaky receptacles. ☐ Keep receptacles covered. ☐ Prohibit/prevent dumping of liquid or hazardous wastes. ☐ Post "no hazardous materials" signs. ☐ Inspect and pick up litter daily and clean up spills immediately.

Potential Sources of Runoff Pollutants	Permanent Source Control BMPs	Operational Source Control BMPs
		☐ Keep spill control materials available on-site. ☐ Clean by dry-sweeping only, or with wet/dry vacuum. ☐ See Fact Sheet SC-34, "Waste Handling and Disposal"
N. Fire sprinkler test water	☐ Fire sprinkler test water shall be discharged to the sanitary sewer.	☐ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance"
O. Miscellaneous drain or wash water or other sources • Boiler drain lines • Condensate drain lines • Rooftop equipment • Drainage sumps • Roofing, gutters, and trim • Other sources	☐ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain. ☐ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ☐ Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ☐ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.	If architectural copper is used, implement the following BMPs for management of rinse water during installation: ☐ If possible, purchase copper materials that have been pre-patinated at the factory. ☐ If patination is done on-site, prevent rinse water from entering storm drains by discharging to landscaping or by collecting in a tank and hauling off-site. ☐ Consider coating the copper materials with an impervious coating that prevents further corrosion and runoff. ☐ Implement the following BMPs during routine maintenance: ☐ Prevent rinse water from entering storm drains by discharging to landscaping or by collecting in a tank and hauling off-site.
P. Plazas, sidewalks, and parking lots		☐ Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

VI. Stormwater Facility Maintenance

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

Maintenance of stormwater facilities will be the responsibility of the property owner and will be performed by the owner's contractors or employees as part of routine maintenance of buildings, grounds and landscaping. The applicant will review the Post-Construction BMP Maintenance Agreement with the City of Napa regarding the maintenance of the stormwater facilities and commit to execute any necessary agreements prior to completion of construction. Applicant accepts responsibility for interim operation and maintenance of stormwater treatment and flow-control facilities until such time as this responsibility is formally transferred to a subsequent owner.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

The bioretention/detention facilities will be maintained on the following schedule at a minimum. Details of maintenance responsibility and procedures will be included in an Operation and Maintenance Plan to be submitted for approval prior to the completion of construction.

At no time will synthetic pesticides or fertilizers be applied, nor will any soil amendments, other than aged compost mulch or sand/compost mix, be introduced.

Daily: The facilities will be examined for visible trash during regular policing of the site, and trash will be removed.

After Significant Rain Events: A significant rain event is one that produces approximately a half-inch or more rainfall in a 24-hour period. Within 24 hours after each such event, the following will be conducted:

- The surface of the facility will be observed to confirm there is no excessive ponding. All facilities are designed to pond up to a 6" reservoir for stormwater treatment, and BRF #1 & #2 are designed to further detain up to a 24-hour, 100-year rainfall event.
- Inlets will be inspected, and any accumulations of trash or debris will be removed.
- The surface of the mulch layer will be inspected for movement of material. Mulch will be replaced and raked smooth if needed.
- At BRF #1 & #2, the metering structure and orifice will be inspected, and any accumulations of debris or sediment will be removed.

Prior to the Start of the Rainy Season: In September of each year, the facility will be inspected to confirm there is no accumulation of debris that would block flow, and that growth and spread of plantings does not block inlets or the movement of runoff across the surface of the facility. At BRF #1 & #2, the metering structure and orifice will be inspected, and any accumulations of debris or sediment will be removed.

Annual Landscape Maintenance: In December – February of each year, vegetation will be cut back as needed, debris removed, and plants and mulch replaced as needed. The concrete work will be inspected for damage. The elevation of the top of soil and mulch layer will be confirmed to be consistent with the 6-inch reservoir depth.

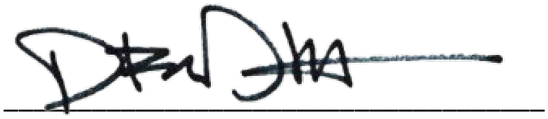
VII. Construction Plan E.12 Checklist

Table 4. Construction Plan E.12 Checklist

Stormwater Control Plan Page #	Source Control or Treatment Control Measure	See Plan
1	Bioretention Facilities	SCP Site Plan in Attachment 2

VIII. Certifications

The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the BASMAA Post-Construction Manual, dated January 2019.



Preparer
Derek Dittman, PE

ATTACHMENT 1

SOIL CLASSIFICATION

122° 19' 2" W
122° 18' 43" W
38° 20' 10" N
38° 20' 0" N

Map Scale: 1:2,120 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Napa County, California
Survey Area Data: Version 10, Sep 25, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2015—Oct 18, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
116	Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14	D	1.2	11.9%
145	Haire loam, 0 to 2 percent slopes	D	9.2	88.1%
Totals for Area of Interest			**10.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

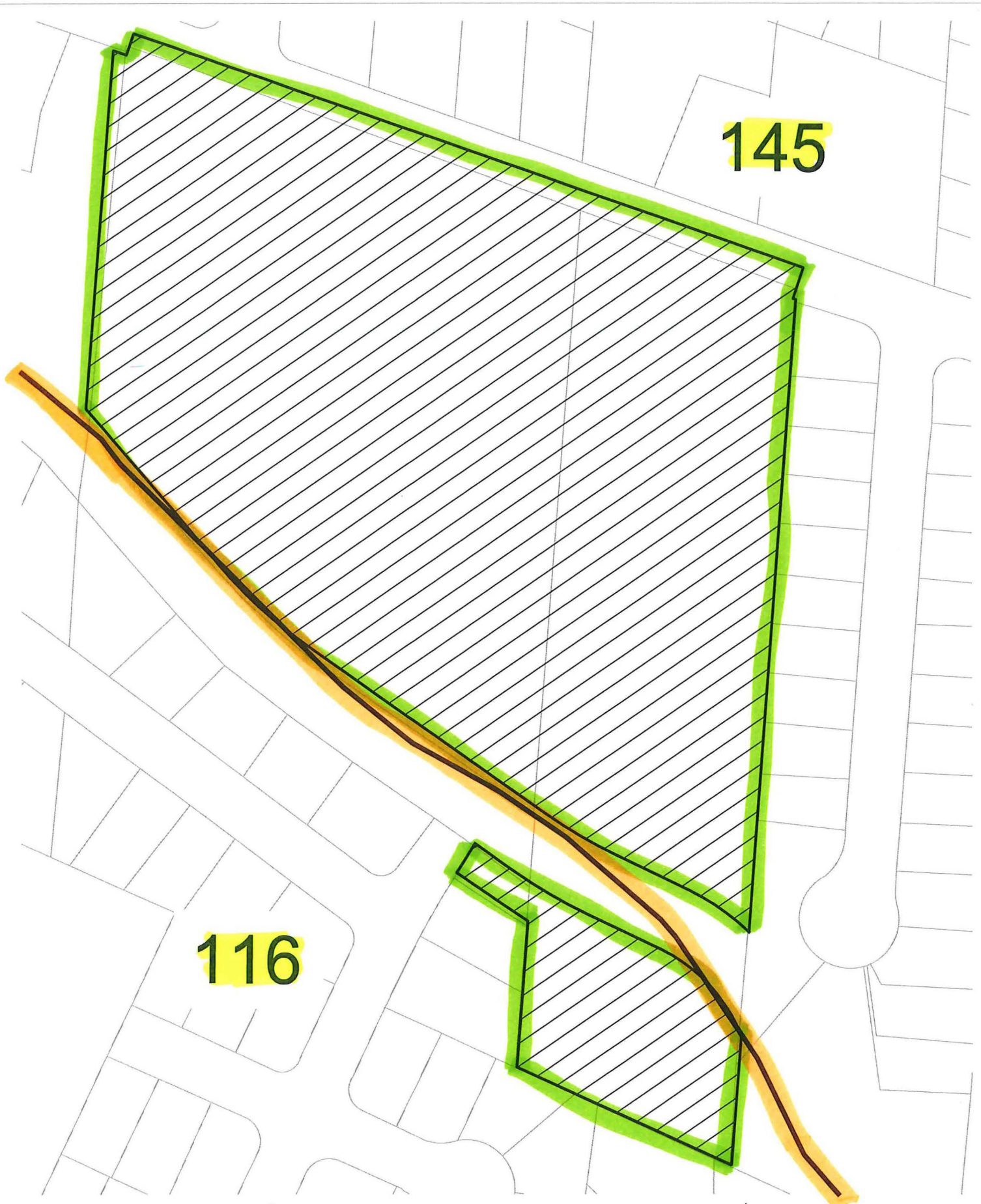
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

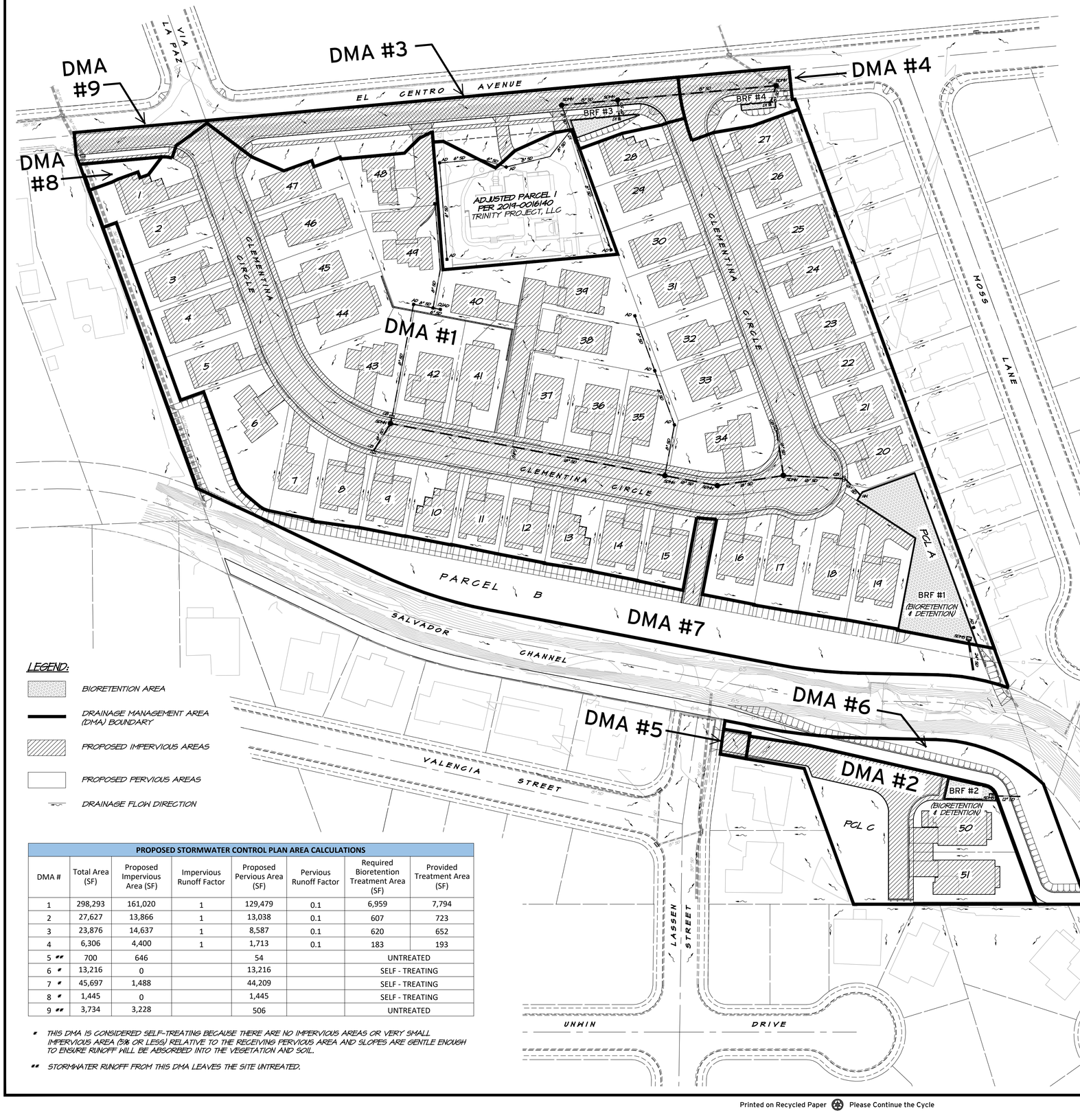
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



SCS SOIL CLASSIFICATION EXHIBIT
FOR PRELIMINARY
DETENTION SYSTEM CALCULATION

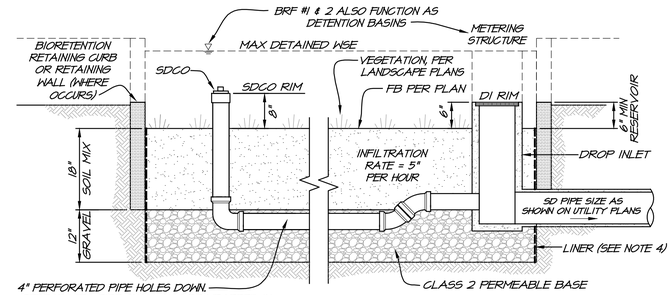
ATTACHMENT 2

STORMWATER CONTROL PLAN (SHEET TM9)



PROPOSED POST CONSTRUCTION BMP's

BMP (BEST MANAGEMENT PRACTICES)	TREATMENT AREA
1. BIORETENTION AREAS, 4 EACH (SEE DETAIL 1/TM9 IN THIS SHEET)	SEE MAP FOR DMA
2. 'NO DUMPING, DRAINS TO RIVER' STAMPING ON ALL INLETS (SEE DETAIL 2/TM9 IN THIS SHEET)	ENTIRE PROJECT
3. 'WATER QUALITY FEATURE ON SITE' STAMPING ON ALL BIORETENTION INLETS (SEE DETAIL 3/TM9 IN THIS SHEET)	ENTIRE PROJECT
4. SPLASH BLOCKS ON ALL DOWNSPOUTS (SEE DETAIL 4/TM9 IN THIS SHEET)	ENTIRE PROJECT
5. HOMEOWNER EDUCATION: COPY OF SCP AND MAINTENANCE AGREEMENT TO BE PROVIDED TO OWNER	ENTIRE PROJECT



LONGITUDINAL SECTION

NOTES:
1. NO COMPACTION OF SOILS BENEATH THE FACILITY, OR RIPPING/LOOSENING OF SOILS IF COMPACTED.
2. NO LINERS OR OTHER BARRIERS INTERFERING WITH INFILTRATION.
3. APPROPRIATE PLANT PALETTE FOR THE SPECIFIED SOIL MIX & MAXIMUM AVAILABLE WATER USE.
4. LINER SHALL BE 30 MIL LINER.

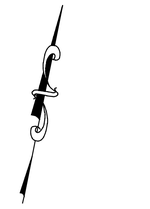
BIORETENTION PLAN LIST: REFER TO BASMAA PLANT MATRIX IN APPENDIX F (SEE LANDSCAPE PLANS)

SOIL MIX NOTE: A MIXTURE OF SAND (60%-70%) MEETING THE SPECIFICATIONS OF ASTM C33 AND COMPOST (30%-40%) PER BASMAA PHASE II SOIL MIX. ENGINEER TO CERTIFY SOIL MIX PRIOR TO INSTALLATION.

GRAVEL NOTE: "CLASS 2 PERMEABLE" CALTRANS SPECIFICATION 68-2.02F(3)

1/TM9 **BIORETENTION AREA DETAIL**
NOT TO SCALE

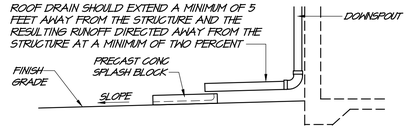
GRAPHIC SCALE
50 0 50 100
(IN FEET)
1 inch = 50 FT



2/TM9 **DROP INLET MARKER**
NOT TO SCALE

NOTES
1. EACH BIORETENTION FACILITY WITHIN THE CITY LIMITS SHALL BE MARKED WITH A "WATER QUALITY FEATURE ON SITE - DO NOT ALTER OR REMOVE" MARKER.
2. CONTRACTOR IS TO PURCHASE THESE MARKERS FROM THE PUBLIC WORKS DEPARTMENT LOCATED AT 1600 FIRST STREET.

3/TM9 **BIORETENTION FACILITY MARKER**
NOT TO SCALE



4/TM9 **SPLASH BLOCK DETAIL**
NOT TO SCALE

LEGEND:

- BIORETENTION AREA
- DRAINAGE MANAGEMENT AREA (DMA) BOUNDARY
- PROPOSED IMPERVIOUS AREAS
- PROPOSED PERVIOUS AREAS
- DRAINAGE FLOW DIRECTION

PROPOSED STORMWATER CONTROL PLAN AREA CALCULATIONS

DMA #	Total Area (SF)	Proposed Impervious Area (SF)	Impervious Runoff Factor	Proposed Pervious Area (SF)	Pervious Runoff Factor	Required Bioretention Treatment Area (SF)	Provided Treatment Area (SF)
1	298,293	161,020	1	129,479	0.1	6,959	7,794
2	27,627	13,866	1	13,038	0.1	607	723
3	23,876	14,637	1	8,587	0.1	620	652
4	6,306	4,400	1	1,713	0.1	183	193
5 **	700	646		54		UNTREATED	
6 *	13,216	0		13,216		SELF - TREATING	
7 *	45,697	1,488		44,209		SELF - TREATING	
8 *	1,445	0		1,445		SELF - TREATING	
9 **	3,734	3,228		506		UNTREATED	

* THIS DMA IS CONSIDERED SELF-TREATING BECAUSE THERE ARE NO IMPERVIOUS AREAS OR VERY SMALL IMPERVIOUS AREA (5% OR LESS) RELATIVE TO THE RECEIVING PERVIOUS AREA AND SLOPES ARE GENTLE ENOUGH TO ENSURE RUNOFF WILL BE ABSORBED INTO THE VEGETATION AND SOIL.

** STORMWATER RUNOFF FROM THIS DMA LEAVES THE SITE UNTREATED.

Printed on Recycled Paper Please Continue the Cycle

PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS	BY	APPD

RSA+ CONSULTING CIVIL ENGINEERS + SURVEYORS +
1515 FOURTH STREET NAPA, CALIFORNIA 94559
OFFICE (707)252.3301
+ www.RSAcivil.com +

ZINFANDEL SUBDIVISION
STORMWATER CONTROL PLAN
NAPA CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
DEREK MASON DITMAN
No. 90885
Exp. 03.31.2024
CIVIL ENGINEER
STATE OF CALIFORNIA

DATE	JUNE 9, 2023
DRAWN	DEL
DESIGNED	RAY
CHECKED	DMD
JOB NO.	4117017.0

SHEET NO.
TM9
10 OF 11 SHEETS

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ATTACHMENT 3

PROVISION E.12 SIZING CALCULATOR SPREADSHEET

Provision E.12 Sizing Calculator

See the instructions and the BASMAA Post-Construction Manual

Step 1: Enter Total Site Area	**Step 2:** List names of all DMAs and square footage of each	**Step 3:** If DMA is "Self-Treating" or "Self-Retaining," **copy** square footage to appropriate column		**Step 4:** If the DMA is "Drains to Self Retaining" or "Drains to Bioretention" enter runoff factor from Table 4-1		**Step 6:** For "Drains to Self-Retaining" DMAs, enter the **name of receiving DMA**	**Step 5:** Slide (move) number from this column to correct column (F or H-Q)							
Total Site Area:	420,894							**BIORETENTION FACILITIES**						
DMA Names	**Square Feet**	**Self-Treating**	**Self-Retaining**	**Runoff Factor**	**Untreated**	**Name of Receiving DMA**	**BRF #1**	**BRF #2**	**BRF #3**	**BRF #4**				
DMA-1_{perv}	129,479			0.1			12,948							
DMA-1_{imp}	161,020			1			161,020							
DMA-2_{perv}	13,038			0.1				1,304						
DMA-2_{imp}	13,866			1				13,866						
DMA-3_{perv}	8,587			0.1					859					
DMA-3_{imp}	14,637			1					14,637					
DMA-4_{perv}	1,713			0.1						171				
DMA-4_{imp}	4,400			1						4,400				
DMA-5_{perv}	54				54									
DMA-5_{imp}	646				646									
DMA-6_{perv}	13,216	13,216												
DMA-6_{imp}	0	0												
DMA-7_{perv}	44,209	44,209												
DMA-7_{imp}	1,488	1,488												
DMA-8_{perv}	1,445	1,445												
DMA-8_{imp}	0	0												
DMA-9_{perv}	506				506									
DMA-9_{imp}	3,228				3,228									
Total DMAs	**411,532**	**60,358**	**0**		**4,434**		**173,968**	**15,170**	**15,496**	**4,571**	**0**	**0**	**0**	**0**
						Sizing Factor	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**
						Minimum Size	**6,959**	**607**	**620**	**183**	**0**	**0**	**0**	**0**
Total Facilities	**9,362**	**Step 7:** Enter Facilty Footprints				**Footprint on Exhibit**	7,794	723	652	193	0	0	0	0
DMAs + Facilities	**420,894**						**OK**	**OK**	**OK**	**OK**	**OK**	**OK**	**OK**	**OK**
	OK	**Step 8:** Iterate sizes of facility footprints and DMAs until all footprints are at least the minimum **AND** DMAs + Facilities equals Total Site Area												
		Step 9: Check to make sure Areas Draining to each Receiving Self-Retaining Area do not exceed maximum 2:1 ratio.												
		Step 10: Check results on this spreadsheet are consistent with what is shown on the SCP Exhibit.												

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An ADEC Innovation

D.3 - Erosion and Sediment Control Plan

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SECTION 3. MODEL ESCP TEMPLATE

1. Tracking Documentation

Official Use Only: Tracking Documentation			
Tracking Number:		ESCP Status	Date
Permit Number:		☐ Approved:	
ESCP Submittal Date:		☐ Revise and Resubmit:	
Returned to Applicant for Revision Date:			
Submittal Checked By:		☐ Modification Approved:	
ESCP Resubmittal Date:		☐ Modification Approved:	
Resubmittal Checked By:		☐ Modification Approved:	

2. Staff Comments

Official Use Only: Reviewer Comments	
Item	**Comment**

Erosion and Sediment Control Plan

3. Project Information

Official Use Only				Applicant Complete this Section
	Yes	No	Comments	
A	☐	☐	☐	Project Name: Zinfandel Subdivision
B	☐	☐	☐	Tract Number N/A
C	☐	☐	☐	Assessor's Parcel Number Pending, Adjusted Parcel 2 per 2019-0016141
D	☐	☐	☐	Location 1583 El Centro Avenue Napa, California 94558
E	☐	☐	☐	Name and Distance to Nearest Receiving Water Adjacent to Salvador Channel
F	☐	☐	☐	Area of Disturbance (in acres or square feet) 10.8 acres
G	☐	☐	☐	Total Project Size (in acres or square feet) 9.7 acres
H	☐	☐	☐	Planned Project Start Date April 15, 2020
I	☐	☐	☐	Planned Grading Completion Date June 15, 2020
J	☐	☐	☐	Planned Project Completion Date December 15, 2022
K	☐	☐	☐	Project Description and Purpose Demolition of existing residential house and barn, and construction of a 53-lot subdivision including new houses, streets, driveways, utilities, bioretention facilites, detention basins and landscaping.

Erosion and Sediment Control Plan

3. Applicant Information

Official Use Only				Applicant Complete this Section
	Yes	No	Comments	
A	☐	☐	☐	**Project Owner** Name: Trinity Project, LLC
	☐	☐	☐	Address: 1583 El Centro Avenue Napa, California 94558
	☐	☐	☐	Phone:
B	☐	☐	☐	**Contractor** Name: TBD
	☐	☐	☐	Address:
	☐	☐	☐	Phone: (24/7 Contact Number)
C	☐	☐	☐	Applicant Certification
				I certify that the information provided in the Erosion and Sediment Control Plan is, to the best of my knowledge and belief, true, accurate, and complete and that it will be implemented throughout the project. I further certify that I will notify the City of Napa CA and submit revised information if any of the information or conditions documented in this Erosion and Sediment Control Plan change. I understand there are significant penalties for submitting false information or for not implementing the Erosion and Sediment Control Plan per NMC 8.36.00 Stormwater Runoff Pollution Control. I will retain a copy of the Erosion and Sediment Control Plan at the project site. Signature: _____ Print/Type Name: Derek Dittman, RSA+ Title: Project Engineer Date: October 17, 2019

Erosion and Sediment Control Plan

4. Identify Other Permits or Controls Required

Identify whether other permits or local controls that affect water courses or water quality are required. Attach proof that the necessary permits have been applied for and obtained. Grading/Building Permits will not be issued until proof is submitted that these other permits have been obtained or that local controls have been satisfied.

Official Use Only				Applicant Complete this Section	
	Yes	No	Comments	Permit/Agreement	Attached
A	☐	☐	☐	**Construction General Permit (CGP)** ☐ Not Applicable ☑ Applicable	☐ Proof of submission ☐ Proof permit was obtained
B	☐	☐	☐	**Section 404 Permit** ☑ Not Applicable ☐ Applicable	☐ Proof of submission ☐ Proof permit was obtained
C	☐	☐	☐	**Section 401 Water Quality Certification** ☐ Not Applicable ☑ Applicable	☐ Proof of submission ☐ Proof permit was obtained
D	☐	☐	☐	**Streambed/Lake Alteration Agreement (1600 Agreements)** ☐ Not Applicable ☑ Applicable	☐ Proof of submission ☐ Proof permit was obtained
E	☐	☐	☐	**Napa County Sensitive Domestic Water Supply Drainages** ☑ Not Applicable ☐ Applicable	☐ Proof requirements were satisfied
F	☐	☐	☐	**Other: (Identify)** *List any specific permits required by the local, state, federal, or regional agencies* _____ _____ _____ _____	☐ Proof of submission ☐ Proof permit was obtained

Erosion and Sediment Control Plan

5. Site Plan and BMP Implementation Schedule

Official Use Only					Applicant Complete this Section	
	Yes	No	Comments			
A	☐	☐	☐	Site Plan	Attach site plan and list relevant plan sheets depicting the project site and scope of construction. Show any creek setbacks and areas where existing vegetation will be preserved on the site plans. See TM plans.
B	☐	☐	☐	BMP Locations	Attach site plan and list relevant plan sheets depicting locations of and types of proposed BMPs. Some BMPs may be included as notes on the site plan. See Sheet TM10 (ESCP Site Plan).
C	☐	☐	☐	BMP Implementation Schedule:	Identify schedule for BMP implementation with the commencement of the construction activities and that BMPs will be implemented year round, as appropriate, until the project is complete. Include final site stabilization in the schedule. The schedule may be shown on the site plan(s) or as a separate document. Temporary BMPs shall be installed prior to the start of site clearing and be maintained until final landscaping and stabilization. A more detailed implementation schedule will be provided with future Construction Documents.

Erosion and Sediment Control Plan

6. BMP Information

Identify and describe the BMPs that will be implemented for the project. At a minimum, the ESCP must include the NCSPPP minimum erosion control, sediment control, and good housekeeping BMPs. Provide a rationale for the selected BMPs, including if needed, soil loss calculations. Use the rationale to demonstrate that the selected control measures are appropriate site specific BMPs.

Official Use Only				Applicant Complete this Section	
	Yes	No	Comments	**BMP**	**Rationale**
				EROSION CONTROL BMPS	
A	☐	☐	☐	**Preserve Existing Vegetation** ☐ Yes ☒ Not Applicable	Nearly all existing vineyards, trees & vegetation will be removed for the proposed development.
B	☐	☐	☐	**Track Walk Slopes** ☐ Yes ☒ Not Applicable	There are no slopes on the site large enough to track walk.
C	☐	☐	☐	**Erosion Control Blankets or equivalent** ☒ Yes ☐ Not Applicable	There will be cut slopes along graded terrace along Salvador Channel and the additional terrace/storage area where blankets would be appropriate. See Sheet TM10 (ESCP Site Plan).

Erosion and Sediment Control Plan

Official Use Only				Applicant Complete this Section	
	Yes	No	Comments	**BMP**	**Rationale**
D	☐	☐	☐	**Soil Cover** ☒ Yes ☐ Not Applicable	All disturbed areas shall be seeded or temporarily stabilized during construction.
E	☐	☐	☐	**Revegetation** ☒ Yes ☐ Not Applicable	All disturbed areas shall be permanently landscaped or seeded at the end of construction.
				SEDIMENT CONTROL BMPS	
F	☐	☐	☐	**Stabilized Site Entrance** ☒ Yes ☐ Not Applicable	Stabilized site entrance shall be provided per CASQA TC-1. See Sheet TM10 (ESCP Site Plan).
G	☐	☐	☐	**Fiber Rolls,** (e.g., Straw Wattles) ☒ Yes ☐ Not Applicable	Fiber rolls shall be provided per CASQA SE-5. See Sheet TM10 (ESCP Site Plan).

Erosion and Sediment Control Plan

Official Use Only			Applicant Complete this Section	
Yes	No	Comments	**BMP**	**Rationale**
H ☐	☐	☐	**Silt Fence** ☒ Yes ☐ Not Applicable	Silt fence shall be provided per CASQA SE-1. See Sheet TM10 (ESCP Site Plan).
I ☐	☐	☐	**Drain Inlet Protection** ☒ Yes ☐ Not Applicable	Drain inlet protection shall be provided per CASQA SE-10. See Sheet TM10 (ESCP Site Plan).
			GOOD HOUSEKEEPING, MATERIALS AND WASTE MANAGEMENT BMPs	
J ☐	☐	☐	**Concrete Washout** ☒ Yes ☐ Not Applicable	Concrete washout shall be provided per CASQA WM-8. See Sheet TM10 (ESCP Site Plan).
K ☐	☐	☐	**Stockpile Management** ☒ Yes ☐ Not Applicable	Stockpiles shall be managed per CASQA WM-3. See Sheet TM10 (ESCP Site Plan).

Erosion and Sediment Control Plan

Official Use Only			Applicant Complete this Section	
Yes	No	Comments	BMP	Rationale
L ☐	☐	☐	**Hazardous Material and Refuse Management** ☒ Yes ☐ Not Applicable	Refuse shall be managed per CASQA WM-1. Hazardous waste shall not be stored on site.
M ☐	☐	☐	**Sanitary Waste Management** ☒ Yes ☐ Not Applicable	Temporary construction toilets shall be provided per CASQA WM-9.
N ☐	☐	☐	**Equipment and Vehicle Maintenance** ☐ Yes ☒ Not Applicable	Maintenance shall be conducted off-site.

Erosion and Sediment Control Plan

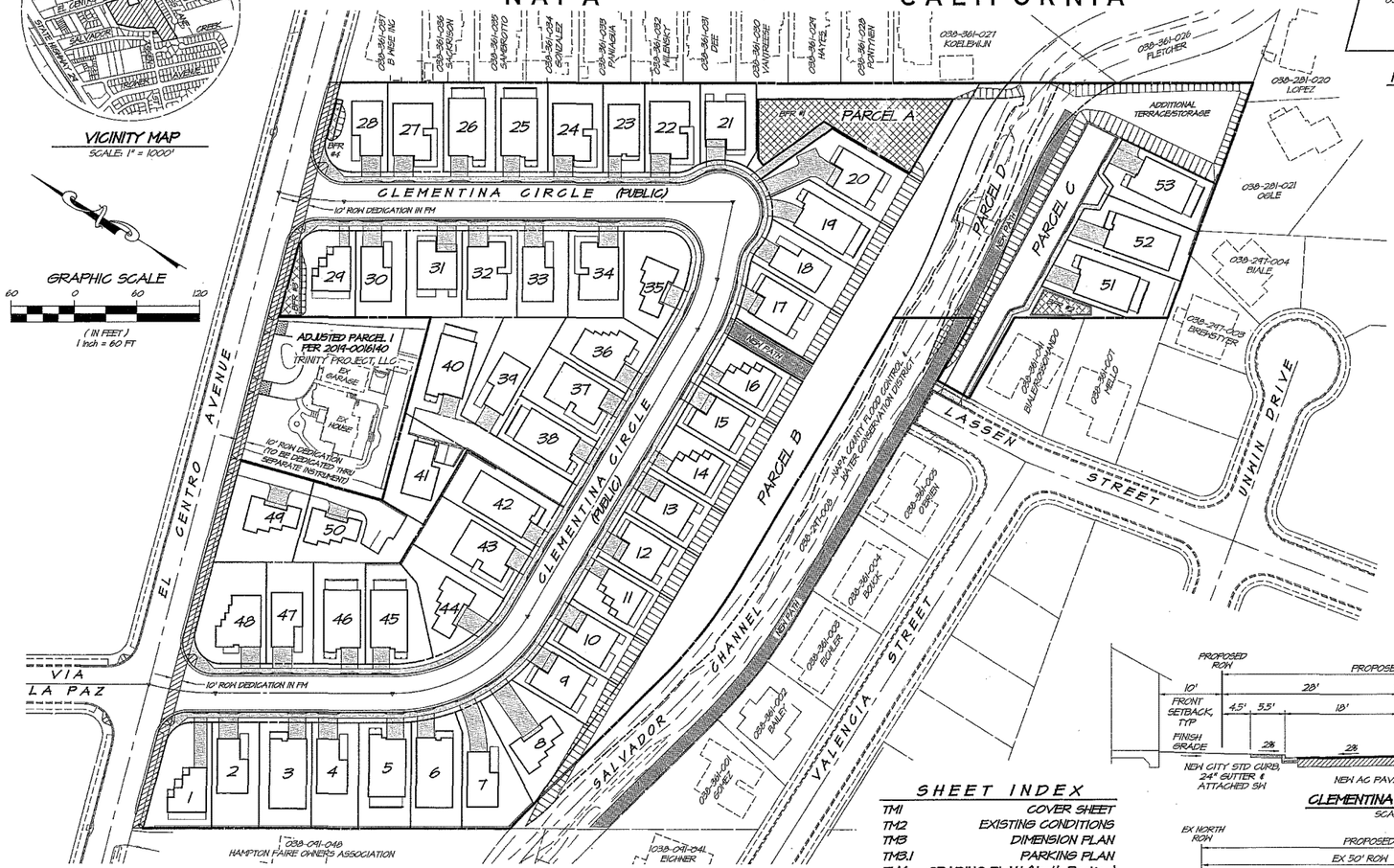
Official Use Only			Applicant Complete this Section
Yes	No	Comments	**BMP** **Rationale**
			OTHER BMPS, *LIST:*
O ☐	☐	☐	_____ ☐ Yes N/A ☐ Not Applicable
☐	☐	☐	_____ ☐ Yes ☐ Not Applicable
☐	☐	☐	_____ ☐ Yes ☐ Not Applicable
☐	☐	☐	_____ ☐ Yes ☐ Not Applicable

Duplicate this page if needed to describe additional BMPs

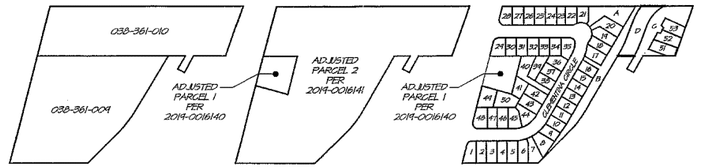
TENTATIVE SUBDIVISION MAP
ZINFANDEL SUBDIVISION
NAPA CALIFORNIA

VICINITY MAP
SCALE: 1" = 1000'

GRAPHIC SCALE
60 0 60 120
(IN FEET)
1 inch = 60 FT



SITE PLAN
SCALE: 1" = 60'



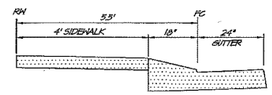
FORMER PARCELS
SCALE: 1" = 300'

EXISTING PARCELS (RECORDED LLA)
SCALE: 1" = 300'

PROPOSED PARCELS
SCALE: 1" = 300'

SYMBOL LEGEND

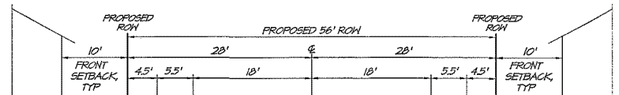
EXISTING		EXISTING		PROPOSED	
	EDGE OF PAVEMENT		AREA DRAIN		EDGE OF PAVEMENT/CONCRETE
EX 10	STORM DRAIN LINE	EX BIO	BIOFILTRATION	W	WATER LINE
EX SS	SANITARY SEWER LINE	EX DI	DROP INLET		STANDARD SIDEWALK
EX W	WATER LINE		WATER WELL		STD CURB AND GUTTER
EX SSMH	SANITARY SEWER MANHOLE	HB	HOSE BIB	WV	STD WATER VALVE
EX SDMH	STORM DRAIN MANHOLE	EX WM	WATER METER	DI	DROP INLET
	CURB AND GUTTER	EX GM	GAS METER		RETAINING WALL/CURB
EX CB	CATCH BASIN	EX SSCO	SEWER CLEANOUT		100-YEAR OVERLAND RELEASE PATH
	SIDEWALK	SL	SEWER LATERAL		FLOW DIRECTION
EX FH	FIRE HYDRANT	WS	WATER SERVICE		MODIFIED DRIVEWAY
EX WV	WATER VALVE				STREET MONUMENT
	WOOD FENCE			SD	STORM DRAIN LINE
	DRIVEWAY			SS	SANITARY SEWER LINE
865	CONTOUR LINE			CB	CATCH BASIN
+ 863	SPOT ELEVATION			FH	FIRE HYDRANT
	RETAINING WALL			SDMH	STORM DRAIN MANHOLE
	STREET SIGN			SSMH	SANITARY SEWER MANHOLE
	HANDICAP RAMP				HANDICAP RAMP
	UTILITY VAULT			SSFH	SANITARY SEWER FLUSH HOLE
ICV	IRRIGATION CONTROL VALVE				SLOPE AS NOTED ON PLANS
				SDMS	STORM DRAIN METERING STRUCTURE
				BFP HM WS	WATER SERVICE W/ BFP & HM
				SL	SEWER LATERAL W/ CLEANOUT
				AD	AREA DRAIN
					STREET LIGHT
				MB	MAIL BOX



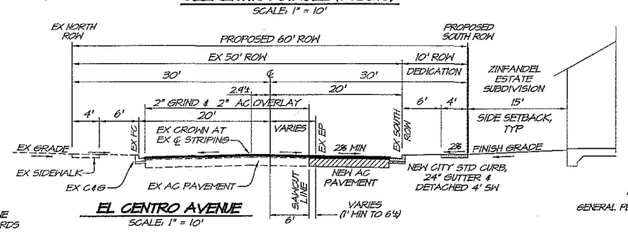
TYP DRIVEWAY WITH 4' SIDEWALK
SCALE: 1"=2'

PROJECT INFORMATION

OWNERS:	TRINITY PROJECT, LLC 977 SALVADOR AVENUE NAPA, CALIFORNIA 94558
ARCHITECT:	KIRK GEYER 1038 ROSS CIRCLE NAPA, CALIFORNIA 94558 (707) 337-9023
LANDSCAPE ARCHITECT:	GSN LANDSCAPE ARCHITECTS, INC. 1100 SCHOOL AVENUE, STE. 23 NAPA, CALIFORNIA 94559 (707) 255-4690
GEOTECHNICAL ENGINEER:	RGH CONSULTANTS 1303 NORTH DUTTON AVENUE SANTA ROSA, CALIFORNIA 95401 (707) 554-1072
ARBORIST:	FRANK, TREES AND ASSOCIATES, LLC P.O. BOX 25 NAPA, CALIFORNIA 94559 (707) 226-2884
CIVIL ENGINEER & SURVEYOR:	RSA + 1515 FOURTH STREET NAPA, CALIFORNIA 94559 (707) 252-3301
PARCEL NO.	ADJUSTED PARCEL 2 (RECORDED LLA)
PARCEL AREA:	9.7± ACRES
EXISTING USE:	RESIDENTIAL
PROPOSED USE:	SINGLE FAMILY RESIDENTIAL
WATER:	CITY OF NAPA
SEWER:	NAPA SANITATION DISTRICT
EXISTING ZONING:	RS 4
PROPOSED ZONING:	RS 4
GENERAL PLAN DESIGNATION:	SFR-20



CLEMENTINA CIRCLE (PUBLIC)
SCALE: 1" = 10'



EL CENTRO AVENUE
SCALE: 1" = 10'

SHEET INDEX

TM1	COVER SHEET
TM2	EXISTING CONDITIONS
TM3	DIMENSION PLAN
TM3.1	PARKING PLAN
TM4	GRADING PLAN (North Portion)
TM5	GRADING PLAN (South Portion)
TM6	GRADING SECTIONS
TM7	UTILITY PLAN (North Portion)
TM8	UTILITY PLAN (South Portion)
TM9	STORMWATER CONTROL PLAN
TM10	ESCP SITE PLAN

ABBREVIATIONS

AB	AGGREGATE BASE	FM	FINAL MAP	R	RADIUS
AC	ASPHALT CONCRETE	FT	FEET	RC	RETAINING CURB
AD	AREA DRAIN	GAR	GARAGE	RCP	REINFORCED CONCRETE PIPE
ADA	AMERICANS WITH DISABILITIES ACT	GB	GRADE BREAK	RET	RETAINING
APN	ASSESSOR'S PARCEL NUMBER	GF	GARAGE FLOOR	ROW	RIGHT OF WAY LINE
APPROX	APPROXIMATE	GM	GAS METER	RW	RETAINING WALL
AT&T	AMERICAN TELEPHONE & TELEGRAPH	GPS	GLOBAL POSITIONING SYSTEM	RS	RECORD SURVEY
BASMAA	BAY AREA STORMWATER MANAGEMENT AGENCIES ASSOCIATION	GR	GRADE	S	SLOPE ; SOUTH
		HB	HOSE BIB	SCP	STORMWATER CONTROL PLAN
BFE	BASE FLOOD ELEVATION	HOA	HOMEOWNERS ASSOCIATION	SD	STORM DRAIN
BFP	BACKFLOW PREVENTER DEVICE	HP	HIGH POINT	SDCO	STORM DRAIN CLEANOUT
BIO	BIORETENTION	HW	HEADWALL	SDE	STORM DRAIN EASEMENT
BMP	BEST MANAGEMENT PRACTICE	ICV	IRRIGATION CONTROL VALVE	SDMH	STORM DRAIN MANHOLE
BO	BLOW OFF	INV	INVERT ELEVATION	SDMS	STORM DRAIN METERING STRUCTURE
BRF	BIORETENTION FACILITY	JP	JOINT POLE	SQ FT, SF	SQUARE FEET
BSW	BACK OF SIDEWALK	L	LENGTH	SFR	SINGLE FAMILY RESIDENCE
BW	BOTTOM OF WALL ELEVATION	LLA	LOT LINE ADJUSTMENT	SL	STREET LIGHT
CATV	CABLE TELEVISION	LF	LINEAL FOOT/FEET	SL	SEWER LATERAL
CB	CATCH BASIN	LP	LOW POINT	SS	SANITARY SEWER
CI	CAST IRON	MAX	MAXIMUM	SSCO	SANITARY SEWER CLEANOUT
℄	CENTERLINE	MB	MAILBOX	SSE	SANITARY SEWER EASEMENT
CO	CLEANOUT	MIN	MINIMUM	SSFH	SANITARY SEWER FLUSH HOLE
CONC	CONCRETE	N	NORTH	SSMH	SANITARY SEWER MANHOLE
CR	CURB RETURN	NAD	NORTH AMERICAN DATUM	STD	STANDARD
CONF	CONFORM	NAPASAN	NAPA SANITATION DISTRICT	SW	SIDEWALK
DET	DETENTION	NAVD	NORTH AMERICAN VERTICAL DATUM	(T)	TOTAL
DI	DROP INLET	NCR	NAPA COUNTY RECORDS	TA	TREATMENT AREA
DIP	DUCTILE IRON PIPE	NCFCNCD	NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	TC	TOP OF CURB ELEVATION
DMA	DRAINAGE MANAGEMENT AREA			TEL	TELEPHONE
E	EAST	NO	NUMBER	TP	TELEPHONE POLE
EG	EXISTING GRADE	OH	OVERHEAD UTILITIES	TYP	TYPICAL
ELEV	ELEVATION	OR	OFFICIAL RECORDS	TW	TOP OF WALL
EP	EDGE OF PAVEMENT	P	PARKING SPACE	UE	UTILITY EASEMENT
ELEC	ELECTRIC	PCL	PARCEL	VAR	VARIES
EX	EXISTING	PAE	PRIVATE ACCESS EASEMENT	W	WATER ; WEST
FB	FLAT BOTTOM ELEVATION	PG&E	PACIFIC GAS & ELECTRIC	WM	WATER METER
FC	FACE OF CURB	PL	PROPERTY LINE	WS	WATER SERVICE
FF	FINISH FLOOR ELEVATION	PSDE	PRIVATE STORM DRAIN EASEMENT	WSE	WATER SURFACE ELEVATION
FH	FIRE HYDRANT	PUE	PUBLIC UTILITY EASEMENT	WV	WATER VALVE
FL	FLOW LINE	PVC	POLYVINYL CHLORIDE		
		PVT	PRIVATE		

BASIS OF BEARINGS

THE BEARING OF NORTH 73°22'58" EAST BETWEEN THE FOUND MONUMENTS ON THE CENTERLINE OF EL CENTRO AVENUE PER BOOK 14 OF RECORD MAPS AT PAGE 100, NAPA COUNTY RECORDS AND BOOK 20 OF RECORD MAPS AT PAGES 7-10, NAPA COUNTY RECORDS.

TOPOGRAPHY NOTE

TOPOGRAPHY SHOWN ON THESE PLANS WAS COMPILED FROM A FIELD SURVEYS BY RSA+ DONE ON JUNE 2017.

HORIZONTAL AND VERTICAL BENCHMARKS

G.P.S. CONTROL COORDINATE DATA

NAD 1983/NAVD 1988 PER 41 RS 44/41, NAPA COUNTY RECORDS

#	GROUND NORTHING	GROUND EASTING	ELEVATION	DESCRIPTION
22	1862664.801	6411071.274	70.221'	2" BRASS DISC IN HELL AT INTERSECTION OF JEFFERSON STREET & CASK DRIVE
26	1865246.580	6412246.231	70.212'	3" BRASS DISC IN HELL AT INTERSECTION OF JEFFERSON STREET AND SHEETBOAR DRIVE (IN NORTHBOUND LANE OF JEFFERSON STREET)
27	1866684.244	6411049.118	76.451'	2" BRASS DISC IN HELL IN WESTBOUND LANE OF SALVADOR AVENUE AT JEFFERSON STREET
38	1863434.940	6414442.546	60.241'	3" BRASS DISC IN HELL AT INTERSECTION OF TROWER AVENUE & STOVER STREET

PROJECT NOTES

1. TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS ARE FROM A FIELD SURVEY PERFORMED BY RSA+ IN JUNE 2017.
2. BOUNDARY INFORMATION SHOWN IS FROM A RECORD OF SURVEY PERFORMED BY RSA+ IN OCTOBER 2017.
3. SUBJECT PROPERTY IS ADJACENT TO A FLOODPLAIN AND PORTIONS OF THE PROPERTY DO LIE WITHIN THE 100 YEAR FLOODPLAIN PER THE BFE'S SHOWN ON THE FLOOD INSURANCE RATE MAP (FIRM) AS SHOWN ON SHEETS TM4 AND TM5.
4. THIS MAP SHOWS ALL CONTIGUOUS PROPERTY OF THE OWNERS.
5. ONE RESIDENTIAL HOUSE AND A BARN EXIST ON THE SUBJECT PROPERTY.
6. EXISTING AND PROPOSED EASEMENTS ARE SHOWN.
7. EXISTING AND PROPOSED UTILITIES ARE SHOWN. EXISTING UNDERGROUND UTILITIES AS SHOWN WERE DRAWN FROM RECORD SOURCES ONLY. BURIED PIPES WERE NOT VERIFIED, NOR WAS ANY SUBSURFACE EXPLORATION CONDUCTED.
8. ALL EXISTING UTILITY POLES AND OVERHEAD LINES ALONG STREET FRONTAGE SHALL BE UNDERGROUNDED.
9. CONTOUR LINES AS SHOWN ON SHEETS TM2, TM4 AND TM5 ARE AT 1 FOOT INTERVALS.
10. THE EXISTING WELL FOR THE EXISTING HOUSE WILL BE REMOVED PER NAPA COUNTY HEALTH DEPARTMENT STANDARDS.
11. THERE IS A SEPTIC TANK FOR THE EXISTING HOUSE WHICH WILL BE REMOVED PER NAPA COUNTY HEALTH DEPARTMENT STANDARDS.
12. THERE IS NO PHASING PLANNED FOR THIS PROJECT.
13. THERE ARE NO PUBLIC RECREATION SITES OR PARKS PROPOSED IN THIS SUBDIVISION. THERE ARE PATHS PROPOSED IN THIS PROJECT AS SHOWN ON PLANS.
14. PRIVATE DRIVEWAYS, BIORETENTION/DETENTION FACILITIES AND TERRACES TO BE MAINTAINED BY HOA.

NO.	DATE	REVISIONS	BY	APP'D

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NAPA, CA 94559
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+ WWW.RSACIVIL.COM +
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ZINFANDEL SUBDIVISION
COVER SHEET
NAPA CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
JEREMY NOEL SELLERS
No. 73257
Exp. 12.31.2020
CIVIL
STATE OF CALIFORNIA

DATE	OCTOBER 17, 2019	
DRAWN	DEL	DBL
DESIGNED	RAY	RAY
CHECKED	DD	DD
JOB NO.	417.001.10	

SHEET NO.
TM1
1 OF 11 SHEETS

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GRAPHIC SCALE
40 0 40 80
(IN FEET)
1 inch = 40 FT

EX OH UTILITIES TO BE RECONNECTED
EX OH UTILITIES TO BE UNDERGROUNDED
EX CATV VAULT TO BE RELOCATED
EX JP TO BE RELOCATED TO PLANTER STRIP (END UNDERGROUNDING)
EX ELEC CONNECTION (WITH METER TO BE REMOVED
EX TEL CONNECTION
EX ICV TO BE REMOVED
EX WATER WELL IN WELL HOUSE TO BE REMOVED
EX JP TO BE REMOVED
EX FUEL TANKS TO BE REMOVED
EX SEPTIC LIDS (EX SEPTIC SYSTEM TO BE REMOVED PER NAPA COUNTY HEALTH DEPARTMENT STANDARDS, SEE NOTE 4 BELOW)
EX JP W/ TRANSFORMER TO BE REMOVED
EX WATER VAULT TO BE REMOVED
EX 1.5" P.V.C. RISER APPROXIMATE TO BE REMOVED - LOCATION OF EX 10" AC SS
EX 10" SIDE (810 OR 826, NCR)
EX AG DRIVEWAY
EX GARAGE
REMOVE EX S/L & (2) CO's (SEE NOTE 3 BELOW & TM1 FOR NEW S/L CONNECTION)
EX 10" SS TO BE ABANDONED PER NAPASAN STANDARDS (QUITCLAIM EX SSE IN BETWEEN)
ADJUSTED PARCEL 1 PER 2014-0016140
TRINITY PROJECT, LLC
EX OH UTILITIES TO BE UNDERGROUNDED
EX JP W/ TRANSFORMER TO BE REMOVED
EL CENTRO AVENUE
EX OH UTILITIES TO BE UNDERGROUNDED
EX JP W/ TRANSFORMER TO BE REMOVED
VIA LA PAZ
EX 6" GI WATER
EX 10" AC SS
EX OH UTILITIES TO BE UNDERGROUNDED
EX 8" AC SS
EX 36" SD
EX 15" SD (813 OR 936, NCR)
EX FENCE ALONG WEST BOUNDARY TO REMAIN
HAMPTON FAIRE OWNERS ASSOCIATION
038-241-048
EX JP W/ TRANSFORMER TO REMAIN (BEGIN UNDERGROUNDING)
EX 12" SD
EX 12" INV 70.43
EX 10" AC SS
EX 8" AC SS
EX 10" INV 64.25 (S)
EX 8" INV 64.31 (S)
EX 10" INV OUT 64.25 (S)
EX 8" INV OUT 64.31 (S)
EX 10" INV IN 64.24 (E)
EX 8" INV OUT 64.14 (E)
EX 8" AC SS
EX 10" INV IN 64.25 (N)
EX 10" INV OUT 64.25 (S)
EX 8" INV IN 64.25 (W)
EX 8" INV OUT 64.11 (E)
EX OH UTILITIES TO BE UNDERGROUNDED
EX CB
EX TC 72.64
EX 15" INV IN 61.39 (W)
EX 30" INV IN 61.39 (N)
EX 36" INV OUT 61.39 (S)
EX 30" SD
EX 36" SD
EX 15" SD (813 OR 936, NCR)
EX 36" SD
EX CB
EX TC 72.59
EX 12" INV IN 66.41 (W)
EX 36" INV THRU 66.66 (N&S)
EX JP W/ TRANSFORMER TO REMAIN (BEGIN UNDERGROUNDING)
EX 12" SD
EX 12" INV 70.43
EX 10" AC SS
EX 8" AC SS
EX 8" GI WATER
EX 10" AC SS
EX SSMH
EX RIM 73.31
EX 10" INV IN 65.16 (N)
EX 18" INV THRU 65.11 (E&W)
EX CB
EX TC 72.64
EX 15" INV IN 61.39 (W)
EX 30" INV IN 61.39 (N)
EX 36" INV OUT 61.39 (S)
EX 30" SD
EX 36" SD
EX 15" SD (813 OR 936, NCR)
EX FENCE ALONG WEST BOUNDARY TO REMAIN
EX 36" SD
EX 36" INV 65.2
EX 10" AC SS
EX 8" AC SS
EX 8" GI WATER
EX 10" AC SS
EX SSMH
EX RIM 71.62
EX 8" INV IN 64.25 (N)
EX 8" INV OUT 64.11 (E)
EX 10" INV OUT 64.25 (S)
EX 18" INV IN 64.25 (W)
EX 18" INV OUT 64.11 (E)
EX SSMH
EX RIM 71.79
EX 8" INV IN 64.24 (E)
EX 8" INV OUT 64.14 (W)
EX 8" AG SS
EX SSMH TO REMAIN
EX RIM 71.62
EX 8" INV IN 64.25 (N)
EX 10" INV OUT 64.25 (S)
EX 18" INV IN 64.25 (W)
EX 18" INV OUT 64.11 (E)
EX 10" AC SS
EX 8" AC SS
EX 8" AC SS
EX CB
EX TC 71.41
EX 18" INV IN 63.74 (N)
EX 24" INV OUT 63.71 (S)
EX 18" SD
EX 8" AC SS
EX OH UTILITIES TO BE UNDERGROUNDED
EX JP TO BE REMOVED
EX OH UTILITIES TO BE UNDERGROUNDED
EX CATV VAULT TO BE RELOCATED
EX JP W/ TRANSFORMER TO BE REMOVED
EX OH UTILITIES TO BE UNDERGROUNDED
EX 8" AC SS
EX 10" AC SS
EX 8" AC SS
EX 8" AC SS
EX 8

ZINFANDEL SUBDIVISION DIMENSION PLAN

NAPA — CALIFORNIA

GRAPHIC SCALE
40 0 40 80
(IN FEET)
1 inch = 40 FT

BRF #4 (SEE NOTE 1)
BRF #1 (SEE NOTE 1)
BRF #3 (SEE NOTE 1)
BRF #2 (SEE NOTE 1)

EL CENTRO AVENUE
CLEMENTINA CIRCLE
VIA LA PAZ
LASSEN STREET
UNWIN DRIVE
VALENCIA STREET
SALVADOR CHANNEL

ADJUSTED PARCEL 1 PER 2019-0016140 TRINITY PROJECT, LLC

PARCEL A 15,537 SQ FT
PARCEL B 29,089 SQ FT
PARCEL C 25,098 SQ FT
PARCEL D 16,854 SQ FT

ADDITIONAL STORAGE/TERRACE

DRIVEWAY (PVT) (PRIVATE) (SEE NOTE 1)

PROPOSED 60' ROW

VISIBILITY TRIANGLE, TYP

YELLOW STRIPE CROSSWALK

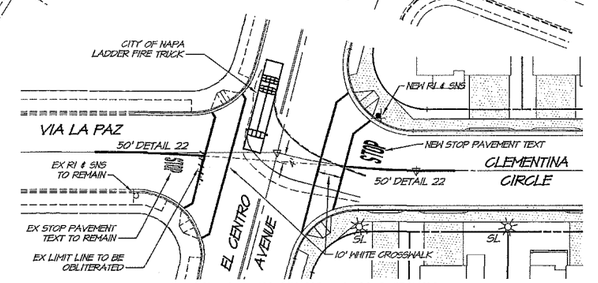
STOP

SEE DETAIL A

038-361-037 B WISE ING
038-361-036 SACKRISON
038-361-035 SAMBROTTO
038-361-034 GONZALEZ
038-361-033 PANIAGUA
038-361-032 MILENSKY
038-361-031 DEE
038-361-030 VANTREESE
038-361-029 HAYES
038-361-028 PONTYNEN
038-361-027 KOELBNI.IN
038-361-026 FLETCHER
038-281-020 LOPEZ
038-281-021 OGILE
038-281-004 BIALE
038-281-003 BRENSTYER
038-361-041 BIALE/ROSSOMANDO
038-361-007 MELLO
038-071-049 HAMPTON FAIRE OWNERS ASSOCIATION
038-281-003 EICHNER
038-361-005 GERBER
038-361-004 BIALE/LUCARENO
038-281-005 EICHER
038-281-002 BAILEY
038-361-001 GOMEZ
038-281-007 NAPA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

SYMBOL LEGEND

- STREET SIGN AS DESCRIBED ON PLAN
- 12" CROSSWALK STRIPE (WHITE OR YELLOW, AS INDICATED ON PLAN)
- STOP — CALTRANS STANDARD STOP PAVEMENT TEXT
- SL — RESIDENTIAL STREET LIGHT (SEE LANDSCAPE PLANS FOR DETAIL)
- DETAIL 22 — CENTERLINE STRIPING, NO PASSING ZONE - TWO DIRECTIONS (CALTRANS STD A20A)
- MB — MAIL BOX AS SHOWN ON LANDSCAPE PLANS
- P — ON-SITE GUEST PARKING SPACE
- △ — CITY STD STREET MONUMENT



DETAIL A - INTERSECTION STRIPING

SCALE: 1"=30'

NOTES:
1. PRIVATE DRIVEWAYS, BIORETENTION/DETENTION FACILITIES AND TERRACES TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
2. SEE SHEET C3.1 FOR LOCATIONS OF ON-STREET PARKING.
3. GARAGES ARE TYPICALLY SET BACK 20' MINIMUM FROM THE BACK OF SIDEWALK OR EDGE OF PRIVATE DRIVEWAY TO PROVIDE ON-SITE PARKING WITHIN THE DRIVEWAY, EXCEPT AT FLAG LOTS 41 AND 50.
4. AT FLAG LOTS 41, 50 AND 53, ON-SITE GUEST PARKING IS DESIGNATED WITH 'P'.
5. SEE SHEET TM 3.1 FOR LENGTH DIMENSIONS FOR AREAS WHERE ON-STREET PARKING ARE PROPOSED.
6. ALL SIDEWALKS SHALL MAINTAIN AN ADA PATH OF TRAVEL WITHOUT OBSTRUCTIONS. LOCATIONS OF MAILBOXES, FIRE HYDRANTS, STREET LIGHTS AND OTHER POTENTIAL OBSTRUCTIONS SHALL BE LOCATED AT THE BACK OF SIDEWALK. WHERE IT IS NECESSARY TO LOCATE AN OBJECT WITHIN THE CURB-ADJACENT SIDEWALK AREA, THE SIDEWALK SHALL BE BUMPED OUT BEHIND THE OBJECT TO MAINTAIN AN ADA PATH OF TRAVEL. GROUP MAILBOXES AND STREET LIGHTS SHALL BE PLACED BEHIND THE SIDEWALK.
7. LOTS 38 & 42 SHALL HAVE DEEDED PEDESTRIAN ACCESS FROM REAR YARDS TO ADJACENT PRIVATE DRIVEWAY.
8. THIS MAP INCLUDES USE PERMIT APPLICATION FOR SMALL LOT DEVELOPMENT ON LOTS 9-16, 23 & 38.

NO.	DATE	REVISIONS	BY	APP'D

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RSA+ CONSULTING CIVIL ENGINEERS + SURVEYORS + LD

REGISTERED PROFESSIONAL ENGINEER — BRIAN NOEL HILL — No. 73257 — Exp. 12.31.2020 — CIVIL — STATE OF CALIFORNIA

DATE	OCTOBER 17, 2019	
DRAWN	DEL	DGL
DESIGNED	RAY	RAY
CHECKED	DD	DD
JOB NO.	4117017.0	

SHEET NO.
TM3
3 OF 11 SHEETS

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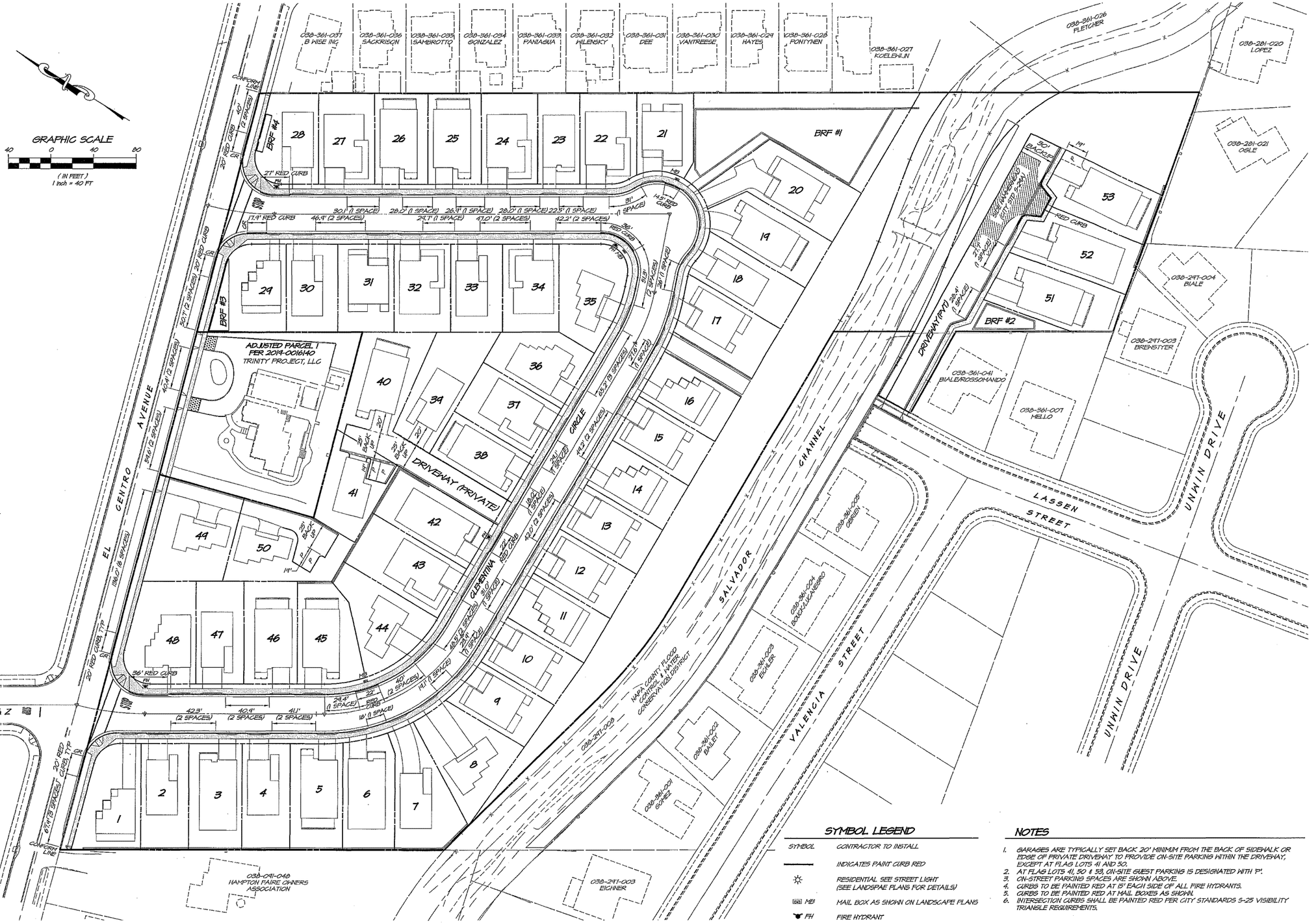

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ZINFANDEL SUBDIVISION
PARKING PLAN

CALIFORNIA

NAPA

REGISTERED PROFESSIONAL ENGINEER
ERIK ROEL HILL
No. 73257
Exp. 12.31.2020
CIVIL ENGINEER
STATE OF CALIFORNIA

DATE	OCTOBER 17, 2019	
DRAWN	DEL	DEL
DESIGNED	RAY	RAY
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JOB NO.	4117011.0	

SHEET NO.
TM3.1
4 OF 11 SHEETS

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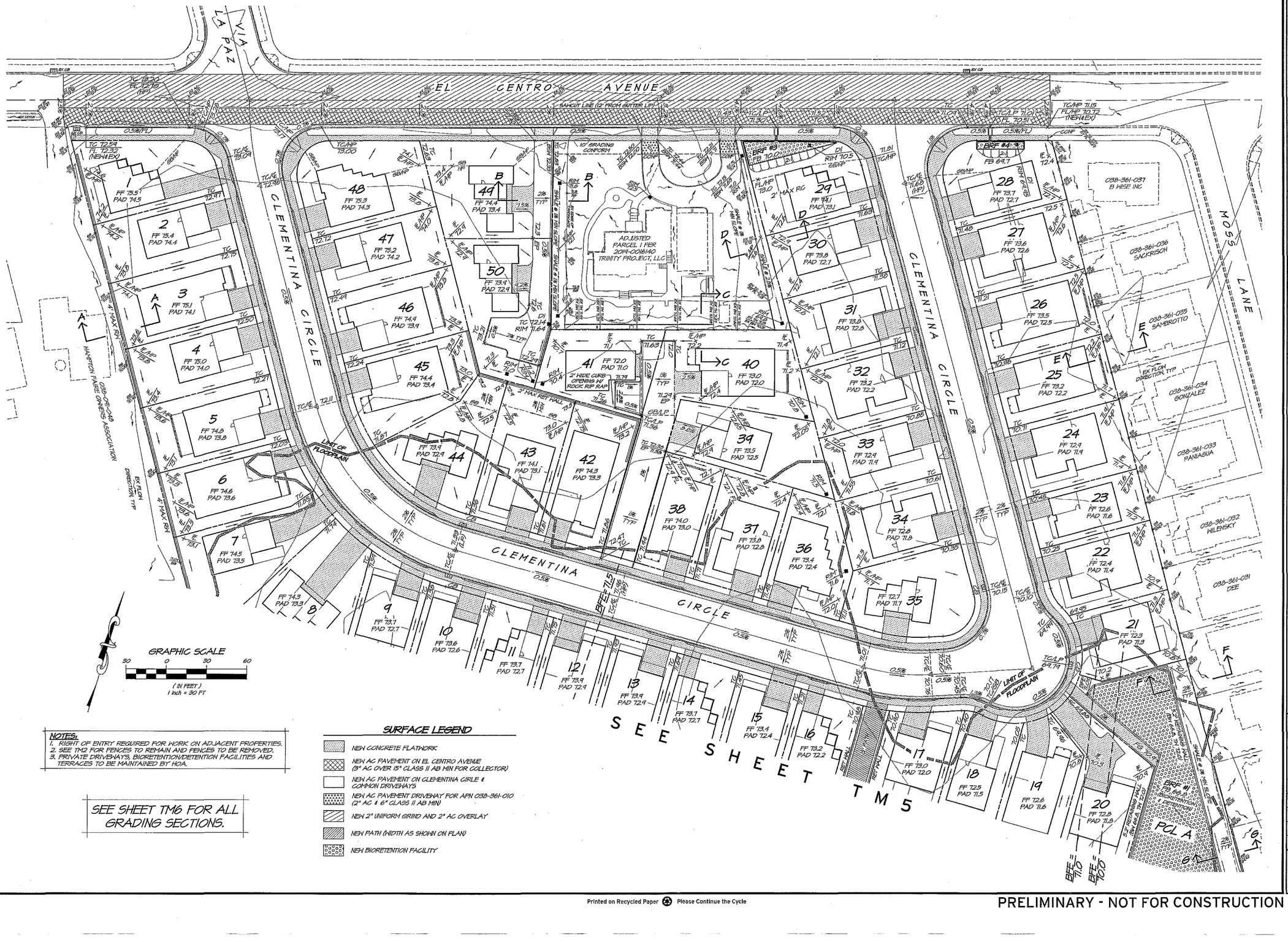

NOTES:
1. RIGHT OF ENTRY REQUIRED FOR WORK ON ADJACENT PROPERTIES.
2. SEE TM2 FOR FENCES TO REMAIN AND FENCES TO BE REMOVED.
3. PRIVATE DRIVEWAYS, BIORETENTION/DETENTION FACILITIES AND TERRACES TO BE MAINTAINED BY HOA.

SEE SHEET TM6 FOR ALL GRADING SECTIONS.

SURFACE LEGEND

- NEW CONCRETE FLATWORK
- NEW AC PAVEMENT ON EL CENTRO AVENUE (3" AC OVER 15" CLASS II AB MIN FOR COLLECTOR)
- NEW AC PAVEMENT ON CLEMENTINA CIRLE & COMMON DRIVEWAYS
- NEW AC PAVEMENT DRIVEWAY FOR APN 038-361-010 (2" AC & 6" CLASS II AB MIN)
- NEW 2" UNIFORM GRIND AND 2" AC OVERLAY
- NEW PATH (WIDTH AS SHOWN ON PLAN)
- NEW BIORETENTION FACILITY

NO.	DATE	REVISIONS	BY	APPD

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ZINFANDEL SUBDIVISION
GRADING PLAN (North Portion)

CALIFORNIA

NAPA

REGISTERED PROFESSIONAL ENGINEER
BRIAN NOEL STILL
No. 73257
Exp. 12.31.2020
CIVIL ENGINEER
STATE OF CALIFORNIA

DATE	OCTOBER 17, 2019
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DESIGNED	RAY
CHECKED	DD
JOB NO.	4117017.0

SHEET NO.
TM4
5 OF 11 SHEETS

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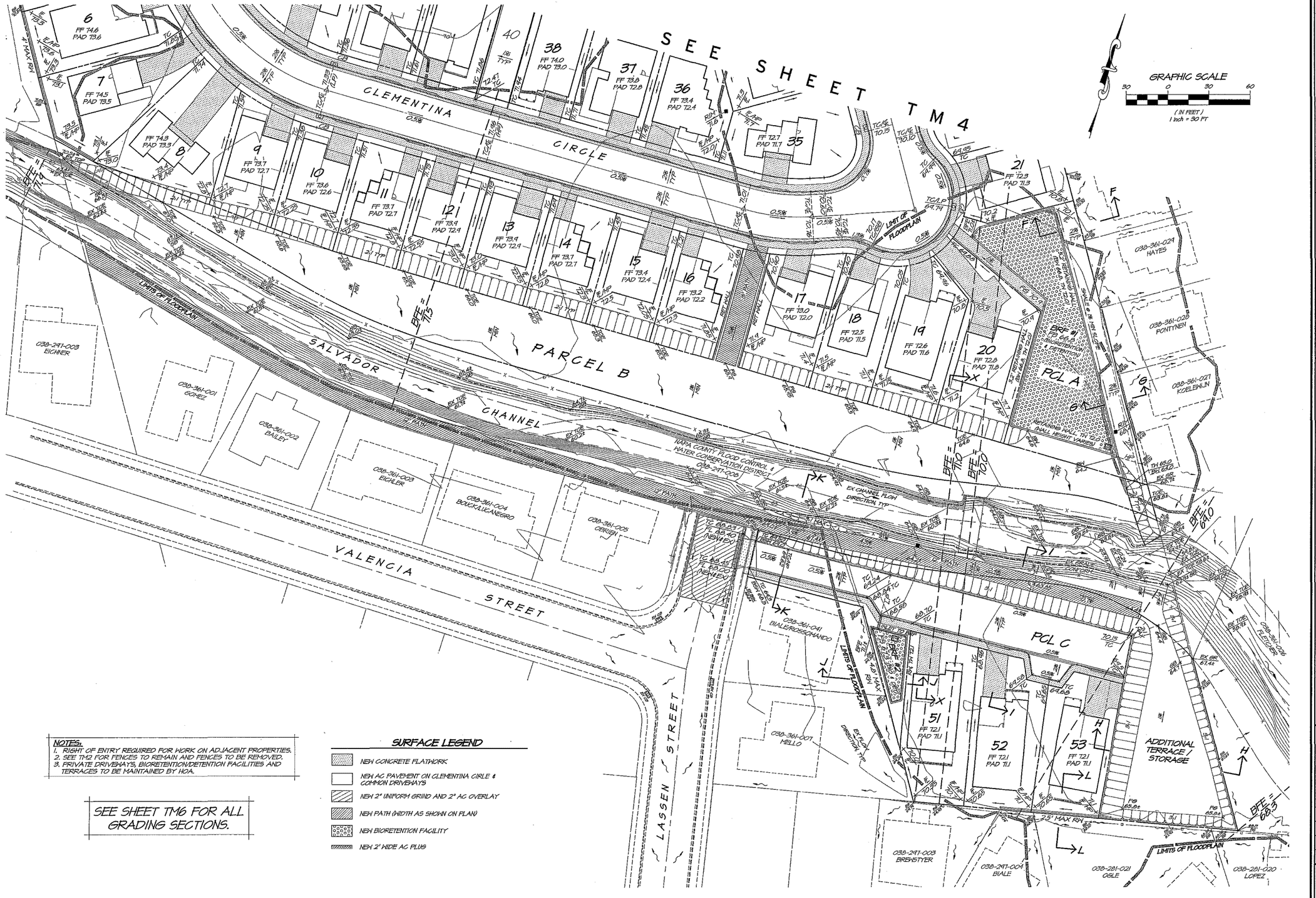

NOTES.
1. RIGHT OF ENTRY REQUIRED FOR WORK ON ADJACENT PROPERTIES.
2. SEE TM2 FOR FENCES TO REMAIN AND FENCES TO BE REMOVED.
3. PRIVATE DRIVEWAYS, BIORETENTION/DETENTION FACILITIES AND TERRACES TO BE MAINTAINED BY HOA.

SEE SHEET TM6 FOR ALL GRADING SECTIONS.

SURFACE LEGEND

- NEW CONCRETE FLATWORK
- NEW AC PAVEMENT ON CLEMENTINA CIRLE & COMMON DRIVEWAYS
- NEW 2" UNIFORM GRIND AND 2" AC OVERLAY
- NEW PATH (WIDTH AS SHOWN ON PLAN)
- NEW BIORETENTION FACILITY
- NEW 2' WIDE AC PLUS

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ZINFANDEL SUBDIVISION
GRADING PLAN (South Portion)
NAPA CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — ERIK NOEL YEE — No. 73257 — Exp. 12.31.2020 — CIVIL ENGINEER — STATE OF CALIFORNIA

DATE	OCTOBER 17, 2019	
DRAWN	DTL	DTL
DESIGNED	RAY	RAY
CHECKED	DD	DD
JOB NO.	411101.0	

SHEET NO.
TM5
6 OF 11 SHEETS

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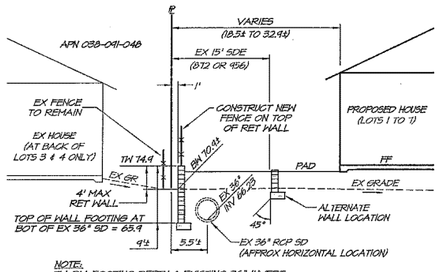
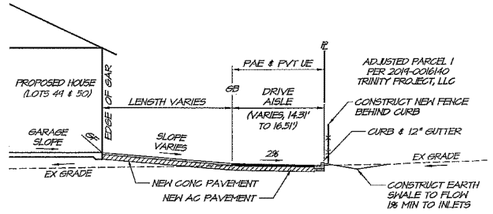
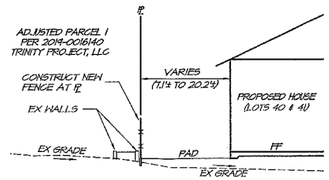


NOTE:
TW, BW, FOOTING DEPTH & EXISTING 36" INVERT ELEVATIONS SHOWN IN THIS SECTION ARE TAKEN AT THE ACTUAL SECTION LINE ON LOT 3 WHERE THE MAXIMUM RETAINING WALL HEIGHT IS APPROXIMATELY 4 FEET.

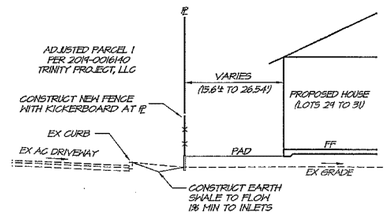
SECTION A-A
SCALE: 1"=10'



SECTION B-B
SCALE: 1"=10'



SECTION C-C
SCALE: 1"=10'



SECTION D-D
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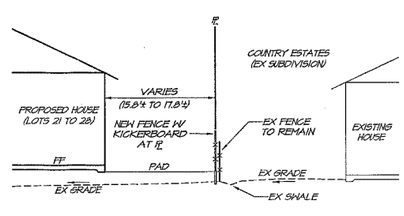
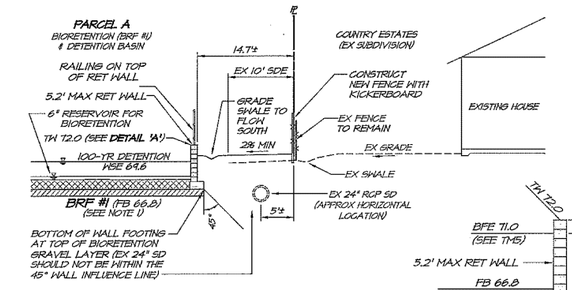


SECTION E-E
SCALE: 1"=10'



SECTION F-F
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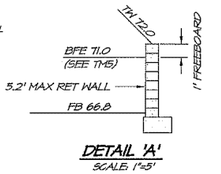
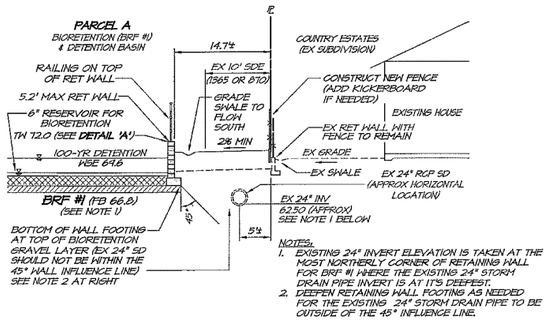
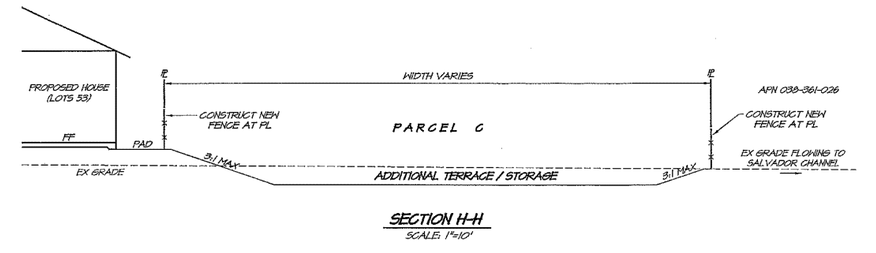


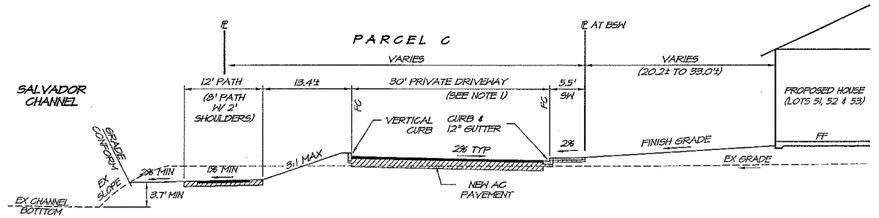
DETAIL 'A'
SCALE: 1"=5'



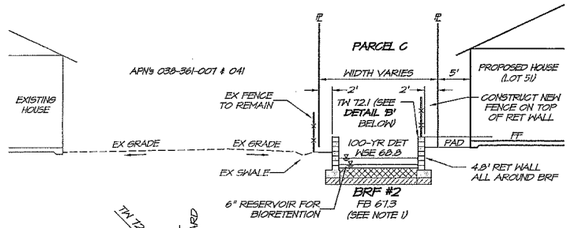
SECTION G-G
SCALE: 1"=10'



SECTION H-H
SCALE: 1"=10'



SECTION I-I
SCALE: 1"=10'



SECTION J-J
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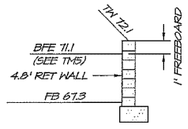

DETAIL 'A'
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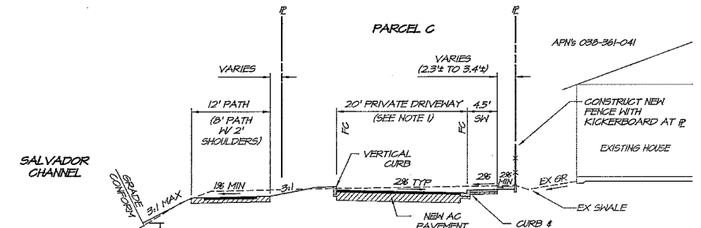
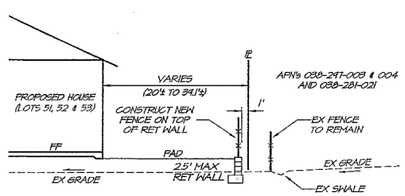
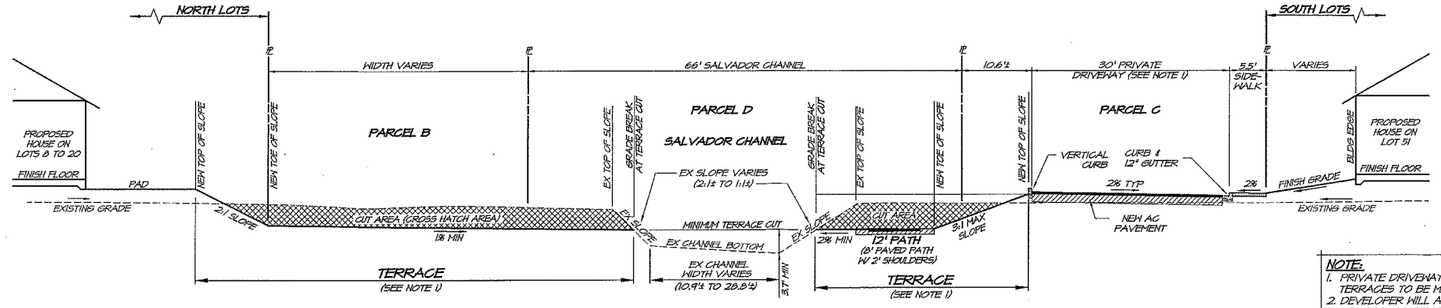


SECTION K-K
SCALE: 1"=10'



SECTION L-L
SCALE: 1"=10'



TYPICAL SALVADOR CHANNEL CROSS SECTION X-X
SCALE: 1" = 10'

NOTE:
1. PRIVATE DRIVEWAYS, BIORETENTION/DETENTION FACILITIES AND TERRACES TO BE MAINTAINED BY HOA.
2. DEVELOPER WILL ATTEMPT TO COORDINATE WITH NEIGHBORING PROPERTY OWNERS TO CONSTRUCT NEW FENCE ALONG SHARED PROPERTY LINES OR USE EXISTING FENCE IF IT IS IN GOOD CONDITION IN LIEU OF CONSTRUCTING NEW FENCE ADJACENT TO EXISTING FENCE AS SHOWN IN THE SECTIONS ABOVE.

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ZINFANDEL SUBDIVISION
GRADING SECTIONS
NAPA CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER BRIAN NOEL GILL Reg. 72257 Exp. 12.31.2020 CIVIL ENGINEER STATE OF CALIFORNIA

DATE	OCTOBER 17, 2019
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DESIGNED	RAY
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SHEET NO.
TM6
7 OF 11 SHEETS

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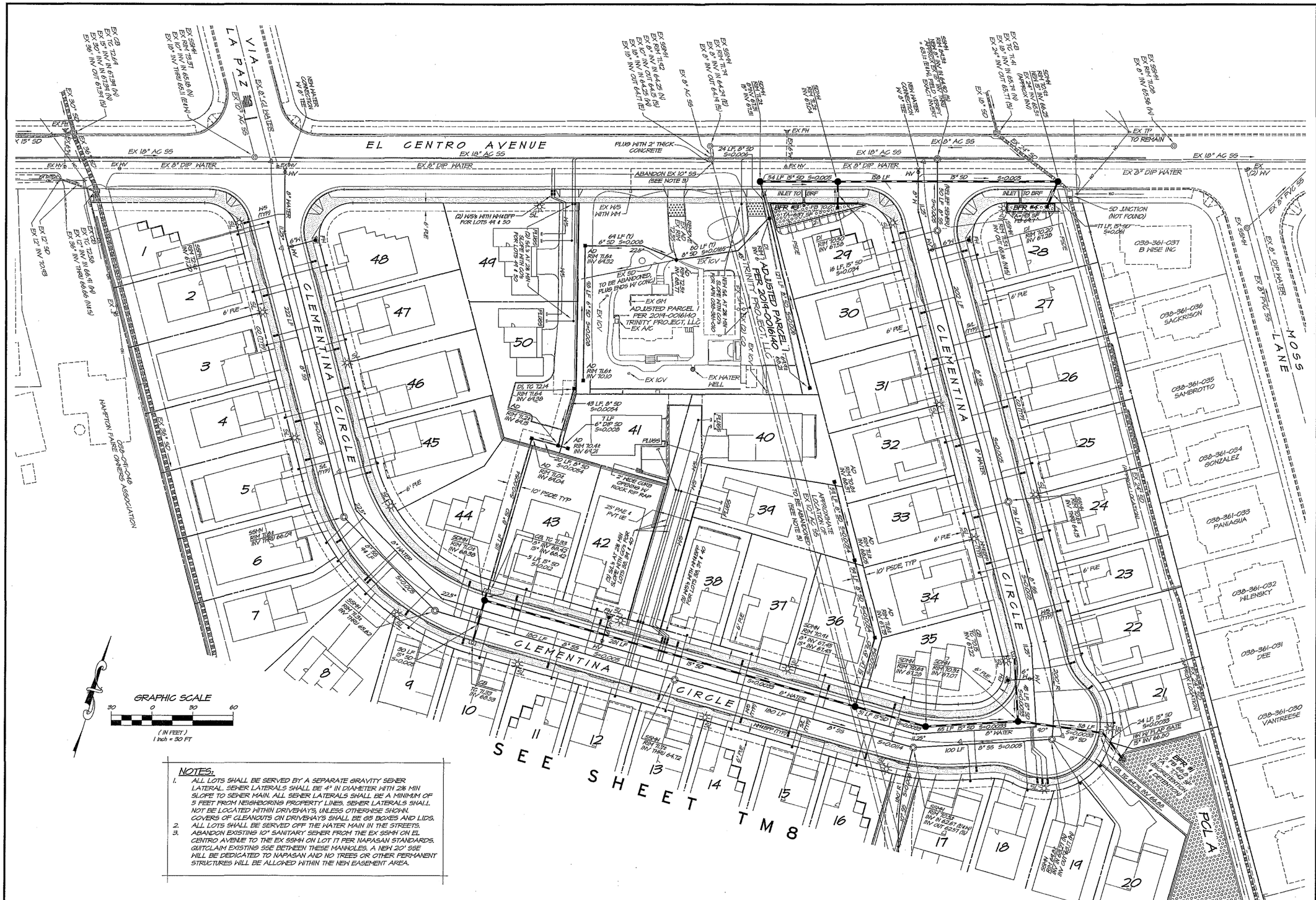

GRAPHIC SCALE
30 0 30 60
(IN FEET)
1 inch = 30 FT

NOTES:

1. ALL LOTS SHALL BE SERVED BY A SEPARATE GRAVITY SEWER LATERAL. SEWER LATERALS SHALL BE 4" IN DIAMETER WITH 2% MIN SLOPE TO SEWER MAIN. ALL SEWER LATERALS SHALL BE A MINIMUM OF 5 FEET FROM NEIGHBORING PROPERTY LINES. SEWER LATERALS SHALL NOT BE LOCATED WITHIN DRIVEWAYS, UNLESS OTHERWISE SHOWN. COVERS OF CLEANOUTS ON DRIVEWAYS SHALL BE GS BOXES AND LIDS.
2. ALL LOTS SHALL BE SERVED OFF THE WATER MAIN IN THE STREETS.
3. ABANDON EXISTING 10" SANITARY SEWER FROM THE EX SSMH ON EL CENTRO AVENUE TO THE EX SSMH ON LOT 17 PER NAPASAN STANDARDS. QUITCLAIM EXISTING SSE BETWEEN THESE MANHOLES. A NEW 20' SSE WILL BE DEDICATED TO NAPASAN AND NO TREES OR OTHER PERMANENT STRUCTURES WILL BE ALLOWED WITHIN THE NEW EASEMENT AREA.

SEE SHEET TM8

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ZINFANDEL SUBDIVISION
UTILITY PLAN (North Portion)
CALIFORNIA
NAPA

REGISTERED PROFESSIONAL ENGINEER GRAHAM HOEL 5717 No. 73257 Exp. 12/31.2020 CIVIL ENGINEER STATE OF CALIFORNIA

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SHEET NO.
TM7
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NOTES:

1. ALL LOTS SHALL BE SERVED BY A SEPARATE GRAVITY SEWER LATERAL. SEWER LATERALS SHALL BE 4" IN DIAMETER WITH 2% MIN SLOPE TO SEWER MAIN. ALL SEWER LATERALS SHALL BE A MINIMUM OF 5 FEET FROM NEIGHBORING PROPERTY LINES. SEWER LATERALS SHALL NOT BE LOCATED WITHIN DRIVEWAYS, UNLESS OTHERWISE SHOWN. COVERS OF CLEANOUTS ON DRIVEWAYS SHALL BE GS BOXES AND LIDS.
2. ALL LOTS SHALL BE SERVED OFF THE WATER MAIN IN THE STREETS.
3. ABANDON EXISTING 10" SANITARY SEWER FROM THE EX SSMH ON EL CENTRO AVENUE TO THE EX SSMH ON LOT 17 PER NAPASAN STANDARDS. QUITCLAIM EXISTING SSE BETWEEN THESE MANHOLES. A NEW 20' SSE WILL BE DEDICATED TO NAPASAN AND NO TREES OR OTHER PERMANENT STRUCTURES WILL BE ALLOWED WITHIN THE NEW EASEMENT AREA.
4. INSTALL 3 SEWER LATERALS AT 2% MIN SLOPE WITH CLEANOUTS FOR LOTS 51, 52 & 53.

GRAPHIC SCALE
30 0 30 60
(IN FEET)
1 inch = 30 FT

SEE SHEET TM7

CLEMENTINA CIRCLE

PARCEL B

SALVADOR CHANNEL

VALENCIA STREET

LASSEN STREET

UNWIN DRIVE

PCL A
BRF #1
FF 66.9
TA = 7,742 SF
"BIORETENTION" DETENTION

PCL C

ADDITIONAL TERRACE/ STORAGE

038-361-030 VANTREESE
038-361-029 HAYES
038-361-028 PONTYNEN
038-361-027 KOELEWIJN
038-241-003 EICHNER
038-361-001 GOMEZ
038-361-002 BAILEY
038-361-003 EICHLER
038-361-004 BOUKAJUCANEGRO
038-361-005 OBRIEN
038-241-002 NAPA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
038-361-041 BIALE / ROSSOMANDO
038-361-007 MELLO
038-241-003 BREWSTYER
038-241-004 BIALE
038-281-021 OGLE
038-281-020 LOPEZ

6	7	8	4
10	11	12	13
14	15	16	17
18	19	20	21
35	36	37	38
40	42		
51	52	53	

(1/TM8) CONCRETE COLLAR DETAIL
NOT TO SCALE

PLAN
SECTION A-A

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ZINFANDEL SUBDIVISION
UTILITY PLAN (South Portion)
CALIFORNIA
NAPA

REGISTERED PROFESSIONAL ENGINEER
BRIAN NOEL BILL
No. C 33257
Exp. 12.31.2020
CIVIL ENGINEER
STATE OF CALIFORNIA

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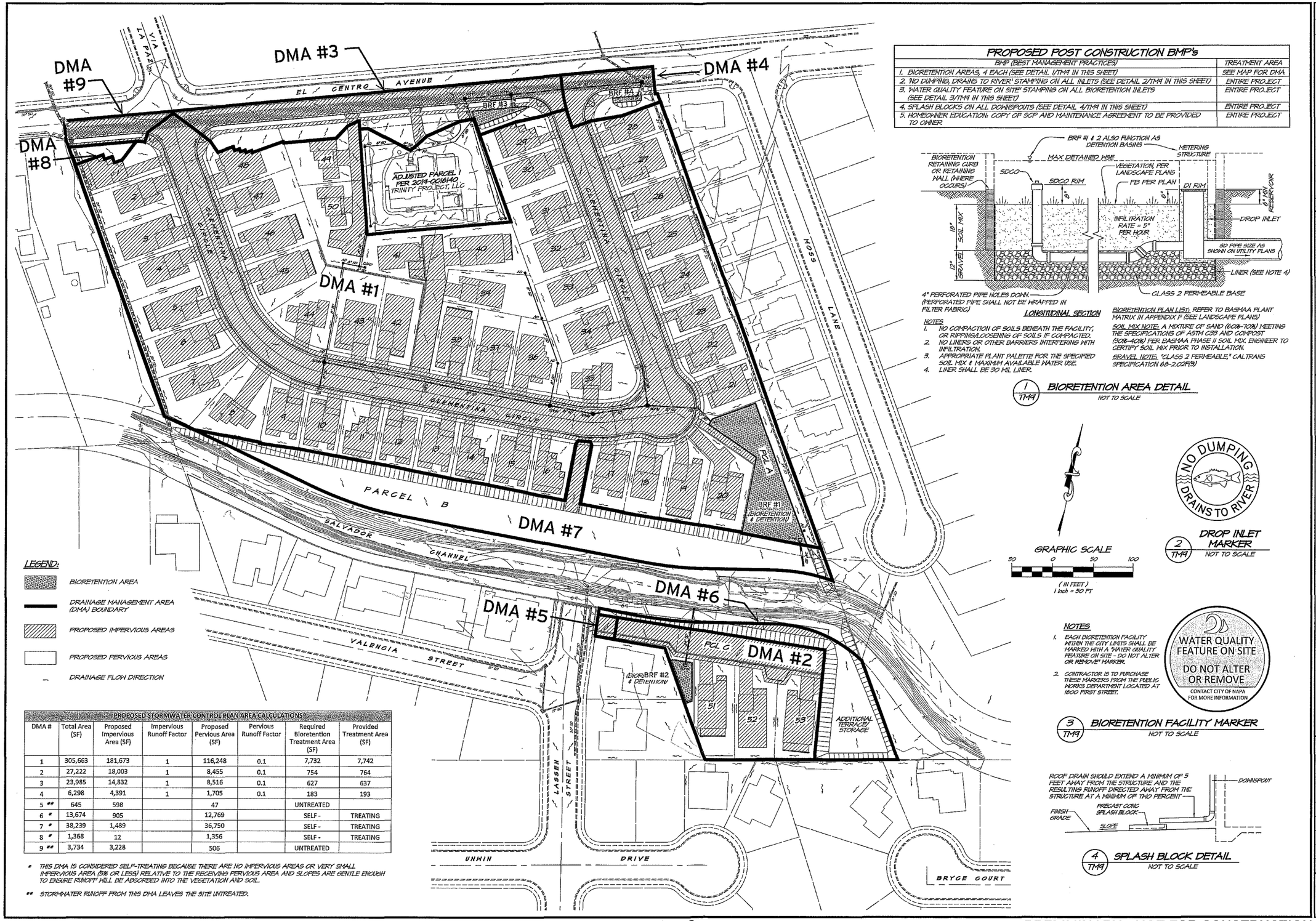

PROPOSED POST CONSTRUCTION BMP's

BMP (BEST MANAGEMENT PRACTICES)	TREATMENT AREA
1. BIORETENTION AREAS, 4 EACH (SEE DETAIL 1/TM9 IN THIS SHEET)	SEE MAP FOR DMA
2. 'NO DUMPING, DRAINS TO RIVER' STAMPING ON ALL INLETS (SEE DETAIL 2/TM9 IN THIS SHEET)	ENTIRE PROJECT
3. 'WATER QUALITY FEATURE ON SITE' STAMPING ON ALL BIORETENTION INLETS (SEE DETAIL 3/TM9 IN THIS SHEET)	ENTIRE PROJECT
4. SPLASH BLOCKS ON ALL DOWNSPOUTS (SEE DETAIL 4/TM9 IN THIS SHEET)	ENTIRE PROJECT
5. HOMEOWNER EDUCATION: COPY OF SCP AND MAINTENANCE AGREEMENT TO BE PROVIDED TO OWNER	ENTIRE PROJECT

LONGITUDINAL SECTION

NOTES:
1. NO COMPACTION OF SOILS BENEATH THE FACILITY, OR RIPPING/LOOSENING OF SOILS IF COMPACTED.
2. NO LINERS OR OTHER BARRIERS INTERFERING WITH INFILTRATION.
3. APPROPRIATE PLANT PALETTE FOR THE SPECIFIED SOIL MIX & MAXIMUM AVAILABLE WATER USE.
4. LINER SHALL BE 30 MIL LINER.

BIORETENTION PLAN LIST: REFER TO BASMAA PLANT MATRIX IN APPENDIX F (SEE LANDSCAPE PLANS)

SOIL MIX NOTE: A MIXTURE OF SAND (60%-70%) MEETING THE SPECIFICATIONS OF ASTM C33 AND COMPOST (30%-40%) PER BASMAA PHASE II SOIL MIX. ENGINEER TO CERTIFY SOIL MIX PRIOR TO INSTALLATION.

GRAVEL NOTE: "CLASS 2 PERMEABLE," CALTRANS SPECIFICATION 68-2.02F(3)

1/TM9 BIORETENTION AREA DETAIL
NOT TO SCALE

GRAPHIC SCALE
50 0 50 100
(IN FEET)
1 inch = 50 FT

2/TM9 DROP INLET MARKER
NOT TO SCALE

NOTES
1. EACH BIORETENTION FACILITY WITHIN THE CITY LIMITS SHALL BE MARKED WITH A "WATER QUALITY FEATURE ON SITE - DO NOT ALTER OR REMOVE" MARKER.
2. CONTRACTOR IS TO PURCHASE THESE MARKERS FROM THE PUBLIC WORKS DEPARTMENT LOCATED AT 1600 FIRST STREET.

3/TM9 BIORETENTION FACILITY MARKER
NOT TO SCALE

4/TM9 SPLASH BLOCK DETAIL
NOT TO SCALE

PROPOSED STORMWATER CONTROL PLAN AREA CALCULATIONS

DMA #	Total Area (SF)	Proposed Impervious Area (SF)	Impervious Runoff Factor	Proposed Pervious Area (SF)	Pervious Runoff Factor	Required Bioretention Treatment Area (SF)	Provided Treatment Area (SF)
1	305,663	181,673	1	116,248	0.1	7,732	7,742
2	27,222	18,003	1	8,455	0.1	754	764
3	23,985	14,832	1	8,516	0.1	627	637
4	6,298	4,391	1	1,705	0.1	183	193
5 **	645	598		47		UNTREATED	
6 *	13,674	905		12,769		SELF -	TREATING
7 *	38,239	1,489		36,750		SELF -	TREATING
8 *	1,368	12		1,356		SELF -	TREATING
9 **	3,734	3,228		506		UNTREATED	

* THIS DMA IS CONSIDERED SELF-TREATING BECAUSE THERE ARE NO IMPERVIOUS AREAS OR VERY SMALL IMPERVIOUS AREA (5% OR LESS) RELATIVE TO THE RECEIVING PERVIOUS AREA AND SLOPES ARE GENTLE ENOUGH TO ENSURE RUNOFF WILL BE ABSORBED INTO THE VEGETATION AND SOIL.

** STORMWATER RUNOFF FROM THIS DMA LEAVES THE SITE UNTREATED.

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ZINFANDEL SUBDIVISION
STORMWATER CONTROL PLAN
CALIFORNIA
NAPA

REGISTERED PROFESSIONAL ENGINEER JEREMY NOEL SILL No. 73057 Exp. 12.31.2020 CIVIL STATE OF CALIFORNIA

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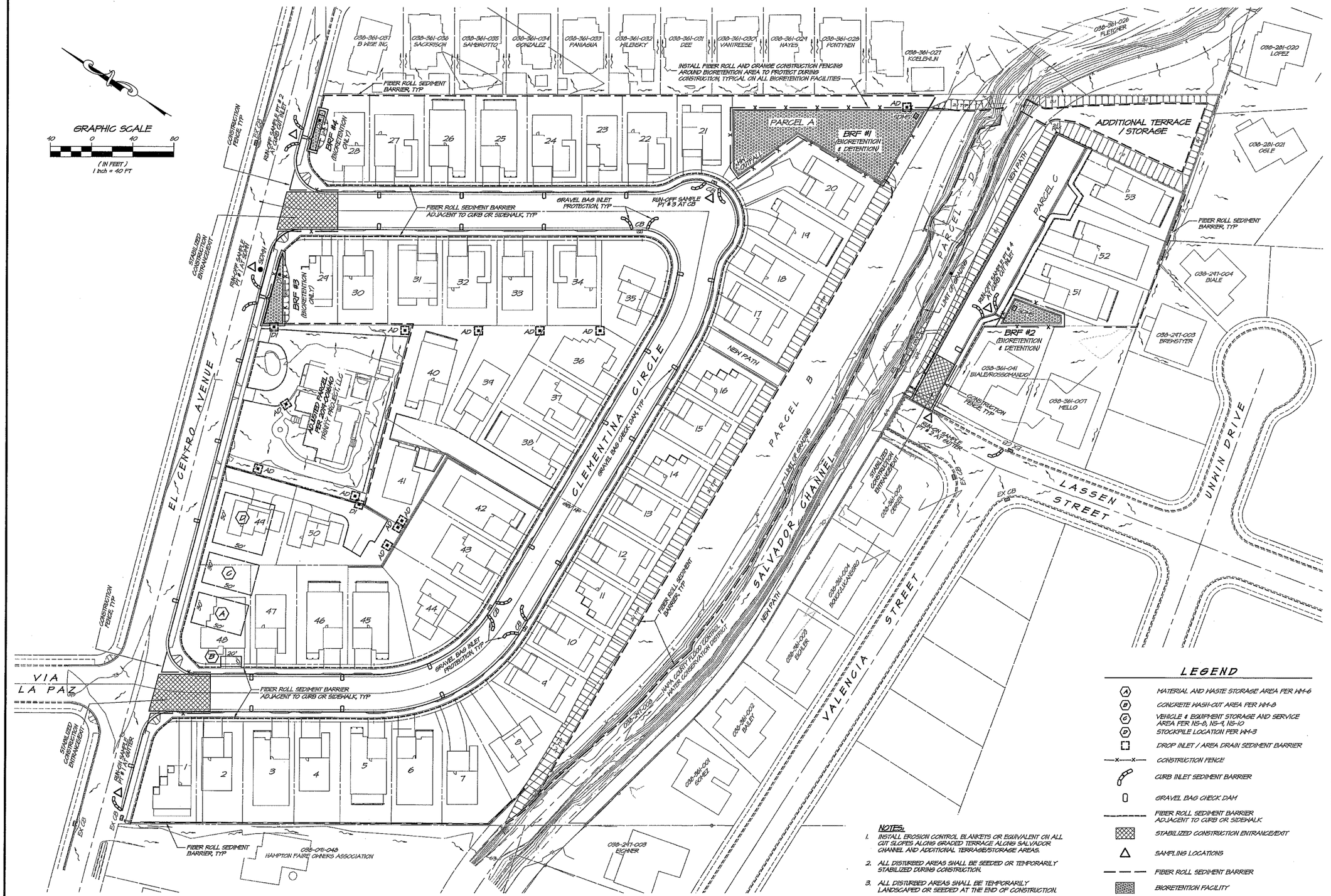

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ZINFANDEL SUBDIVISION
ESCP SITE PLAN
NAPA CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — JORDAN NOEL SITE — No. 73257 — Exp. 12.31.2020 — CIVIL ENGINEER — STATE OF CALIFORNIA

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TM10
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D.4 - Paleontological Records Search

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Kenneth L. Finger, Ph.D.
Consulting Paleontologist

18208 Judy St., Castro Valley, CA 94546-2306 510.305.1080 klfpaleo@comcast.net

May 8, 2020

Dana DePietro
FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597

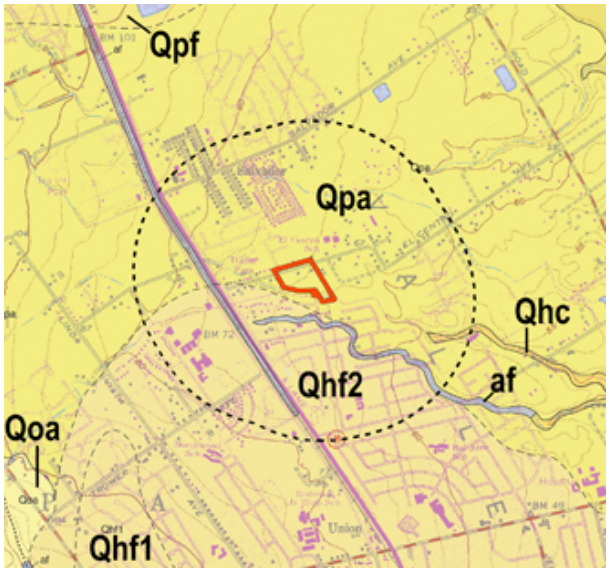
Re: Paleontological Records Search:
Zinfandel Subdivision Project (3552.0019), City of Napa, Napa County

Dear Dr. DePietro:

As per your request, I have performed a records search on the University of California Museum of Paleontology (UCMP) database for the proposed Zinfandel Subdivision in Napa. Its Public Land Survey (PLS) location of the project site is S½, NW¼, SW¼, Sec. 28, T6N, R4W, Napa quadrangle (USGS 7.5-series topographic map). The project site is on relatively flat terrain on the south side of El Centro Avenue. Google Earth imagery shows the surface of this site is occupied by a farm consisting of a house and tilled fields; hence, it has been heavily disturbed.

Geologic Units

According to the part of the geologic map by Clahan et al. (2004) shown here, the entire project site (red outline at center) is on latest Pleistocene alluvium (Qpa). Also within the half-mile search area are Holocene alluvial fan deposits, latest Holocene stream channel deposits (Qhc), and recent artificial fill (af). Older Pleistocene alluvium (Qoa) is mapped about two miles southwest of the project site and probably extends in the to it in the subsurface below the Qpa. Pleistocene alluvium has a high paleontological sensitivity by usually a low or uncertain paleontological potential. The Holocene units are too young to be fossiliferous and therefore have no paleontological sensitivity or potential.



Geologic Units Shown on Map

af	Artificial fill (historic)
Qhc	Stream channel deposits (latest Holocene, <1000 years)
Qha	Alluvium, undivided (Holocene)
Qhf	Alluvial fan deposits (Holocene)
Qpa	Alluvium, undivided (latest Pleistocene)
Qpf	Alluvial fan deposits (latest Pleistocene)
Qoa	Alluvium (early to late Pleistocene)

Records Search Results

The records search performed on the UCMP database focused on the Napa County and revealed two vertebrate and two plant localities. Three of them are Pliocene; one of the plant localities has no indication of age. It is therefore assumed that no significant paleontological resources have been recorded from Pleistocene deposits in Napa Valley. Thus, Pleistocene alluvium in Napa County apparently has an extremely low potential of yielding significant paleontological resources.

Remarks and Recommendations

A paleontological walkover survey and paleontological monitoring are not recommended because the surface of the project site is heavily disturbed and no Pleistocene vertebrate or plant fossils have been recorded from the region. Although highly unlikely, should any vertebrate remains (i.e., bones, teeth, or unusually abundant and well-preserved invertebrates or plants) be unearthed, the construction crew should not attempt to remove them**,** as they could be extremely fragile and therefore prone to crumbling, and to ensure their occurrence is properly recorded; instead, all work in the immediate vicinity of the discovery should be diverted at least 15 feet away from the find until it is assessed by a professional paleontologist assesses and, if deemed significant, salvaged in a timely manner. All recovered fossils should be deposited in an appropriate repository, such as the UCMP, where they will be properly curated and made accessible for future study.

Sincerely,

Reference Cited

Clahan, K.B., Wagner, D.L., Saucedo, G.J., Randolph-Loar, C.E., and Sowers, J.M., 2004. Geologic map of the Napa 7.5' quadrangle, Napa County, California: a digital database, version 1.0. <ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/Prelim_geo_pdf/Calistoga_24k_v1-0.pdf>

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Appendix E:

Hazards and Hazardous Materials Supporting Information

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E.1 - Phase I Environmental Site Assessment

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PHASE I ENVIRONMENTAL SITE ASSESSMENT
1583 AND 1657 EL CENTRO AVENUE
NAPA, CALIFORNIA

CKG Environmental, Inc.
P.O. Box 246
St. Helena, CA 94574

A Report Prepared for:

Biale Family
c/o Randy Gularte
Heritage Sothebys
780 Lincoln Avenue
Napa, CA 94558

Phase I Environmental Site Assessment,
1583 and 1657 El Centro Avenue, Napa, California

January 9, 2018

Certification Statement

I declare to the best of my professional knowledge and belief I meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312 and I have the specific qualifications based on education, training, and experience, to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Prepared by:
CKG Environmental, Inc.

Christina J. Kennedy R.G.

CKG Environmental, Inc.
P.O. Box 246
St. Helena, California 94574
ckennedy@geologist.com
707 967 8080

TABLE OF CONTENTS

1.0 SUMMARY 1
2.0 INTRODUCTION 3
2.1 Purpose 3
2.2 Scope of Services 3
2.3 Significant Assumptions 4
2.4 Limitations and Exceptions 5
2.5 User Reliance 5
3.0 SITE DESCRIPTION 6
3.1 Location and Legal Description 6
3.2 Current Use of the Property 6
3.3 Description of Structures, Roads, Other Improvements on the Site 6
3.4 Current Uses of the Adjoining Properties 6
4.0 USER PROVIDED INFORMATION 7
4.1 Title Records 7
4.2 Environmental Liens or Activity Use Limitations (AUL's) 7
4.3 Specialized Knowledge 7
4.4 Actual Knowledge 7
4.5 Valuation or Reduction for Environmental Issues 7
4.6 Commonly Known or Reasonably Ascertainable Information 8
4.7 Obviousness 8
4.8 Reason for conducting Phase I Environmental Assessment 8
4.9 Owner, Property Manager and Occupant Information 8
5.0 RECORDS REVIEW 9
5.1 Standard Environmental Record Sources 9
5.1.1 Database Listings for the Subject Site 10
5.1.2 Database Listings for Neighboring Sites 10
5.1.3 Vapor Encroachment Screening 11
5.2 Physical Setting Sources 11
5.2.1 Regional Physiographic Setting 11
5.2.2 Soil Conditions 11
5.3 Local Geology 11
5.4 Hydrogeology 12
5.5 Historical Use Information on the Property 12
5.6 Historical Use Information on the Adjoining Properties 12
6.0 PROPERTY RECONNAISSANCE 13
6.1 Methodology and Limiting Conditions 13
6.2 General Site Setting 13
6.3 Exterior Observations 13
6.4 Interior Observations 13
6.5 Property Construction and Utilities 14
6.6 Hazardous Materials Use, Generation, and Disposal 14
6.7 Asbestos Observations 14
6.8 PCB Observations 14

7.0 INTERVIEWS 16
8.0 EVALUATION 17
8.1 Conclusions 17
8.2 Recommendations 17
8.3 Data Gaps 17
8.4 Additional Services 17
9.0 DEVIATIONS 18
10.0 REFERENCES 19

PLATES

PLATE 1 SITE LOCATION MAP

APPENDICES

APPENDIX A REGULATORY AGENCY DATABASE REPORTS
APPENDIX B AERIAL PHOTOGRAPHS
APPENDIX C PHOTOGRAPHIC LOG
APPENDIX D QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

1.0 SUMMARY

CKG Environmental, Inc. has completed this Phase I Environmental Site Assessment (Phase I ESA) for the Biale Family. The assessment was conducted in accordance with the ASTM E 1527-13 guidance and according to "all appropriate inquiry into the previous ownership and uses of the Property with good commercial and customary practice" as defined in CERCLA, 42 USC 9601 (35) (B). The Property, on the south side of El Centro Avenue in north central Napa, California and is referred to in this report as the Site or Property. The Site consists of two parcels totaling 10.2 acres (APN 038 361 009 and 010).

The Property is developed with a single-family residence, driveway, winery equipment storage buildings and is planted with grapes. Part of the property is on the south side of the Salvador Creek a drainage and is accessible by a bridge.

The Property at 1687 El Centro Avenue was developed with the existing residence and agricultural equipment storage building, and a livestock shelter from at least 1942 until the present. The only obvious change was that the agricultural building became smaller over time. At 1583 El Centro Avenue there was a residence and outbuilding that was present until the late 1980s when it was replaced by the existing residence. The one-acre part of the property where the residence is located is not included in this Phase I ESA. Most of the Property was used for pasture except for the section south of Salvador Creek and the front of 1687 El Centro Avenue which were planted with orchards. By 1973 some vineyards had been planted on the Property and by 1982 all the land was planted with vineyards. The surrounding area was mainly agricultural orchard land and pasture until the first residential development was constructed around the Property starting in the late 1960s.

A thorough Property survey, a complete review of regulatory agency records, a review of local historical resources, and interviews with people with knowledge of the Site reveals the following potential environmental conditions on the Site.

1. The vicinity where the diesel and gasoline aboveground storage tanks were stored and dispensed. There is the potential that fuels may have been spilled onto the soil in this area. aboveground storage tanks are very commonly used at winery properties. The likelihood of an enforcement action is small even if a release occurred. If impacted soil is encountered however, it may have to be managed appropriately.

No other recognized environmental conditions relating to the Property were observed.

The unknowns associated with the aboveground storage tanks discussed above can only be addressed by completing a subsurface investigation to collect soil samples and submit them for quantitative analysis for petroleum hydrocarbons. The presence of aboveground storage tanks and the use of pesticides is very common in agricultural properties. If the property owner or potential buyer would like to reduce any uncertainties regarding the presence of aboveground storage tanks CKG would be pleased to work with the interested party to develop a sampling program to address the concerns.

2.0 INTRODUCTION

2.1 Purpose

CKG Environmental, Inc. (CKG) is pleased to submit this Phase I Environmental Site Assessment (ESA) to the Biale Family. The report relates to the Property located south of El Centro Avenue in north central Napa, California and has been prepared in accordance with the Proposal between CKG and the Biale Family dated December 21, 2017. CKG understands that the Biale Family is selling the property. The purpose of the assessment was to assess "the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances, or petroleum products into structures on the properties or into the ground, groundwater, or surface water of the property." The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies" (ASTM Designation: E 1527-13, §1.1.1) and according to "all appropriate inquiry into the previous ownership and uses of the Properties with good commercial and customary practice" as defined in CERCLA, 42 USC 9601 (35) (B).

2.2 Scope of Services

CKG has been requested to perform this Phase I Environmental Assessment by the Biale Family. The scope and format of services completed complies with ASTM Designation: E 1527-13 and "all appropriate inquiry into the previous ownership and uses of the Properties with good commercial and customary practice" as defined in CERCLA, 42 USC 9601 (35) (B).

The scope of services for this ESA consisted of several tasks, including:

i) A reconnaissance of the site and its vicinity;
ii) A compilation of the property history, including the review of previous environmental reports for the subject property (if available);
iii) A file review at relevant agencies (if needed);
iv) An agency list search of facilities with recorded environmental issues within the radii required by ASTM;
vii) A summary of our findings and conclusions.

As per ASTM Practice E 1527-13 and "all appropriate inquiry into the previous ownership and uses of the Property with good commercial and customary practice" as defined in CERCLA, 42 USC 9601 (35) (B)., exceptions, additions *or deletions* to this standard include:

2.3 Significant Assumptions

Statements and conclusions made in this report are based on the writer's visual perception and experience, and are to be considered and interpreted in their entirety. This report merely documents readily observable conditions based upon the writer's knowledge of construction, real estate, and environmental issues.

An ESA is a non-intrusive examination. As such, it is not a full and complete assessment of all environmental conditions. Adverse conditions may exist that could not be discovered by such an assessment. CKG has made every reasonable effort to discover and interpret the information and current conditions regarding the site within the time available. CKG will not recommend additional investigations in accordance with Section 12.6.1 of ASTM 1527-13.

This report must not be regarded as a guarantee that no further contamination exists beyond that which may have been detected within the building or beneath the Property. If additional relevant information about the Property is brought to CKG's attention, the conclusions and recommendations contained in the report may not be valid.

CKG has retained the services of Environmental Data Resources, Inc. (EDR) to search public agency records at the federal, state and local levels for cases, which could impact the Property. The accuracy of government databases or the reports of private database vendors are assumed to be correct and complete, but cannot be extensively verified or guaranteed beyond field observations or after the date of the search inquiry (December 29, 2017). It is also assumed that regulatory agency files reviewed by CKG are current and complete. Interviews with major service vendors were not performed.

It also should be recognized that not all aspects of environmental inspections and laboratory analysis are exact sciences. Although a number of theoretical methods of analysis have been developed, there is always a certain degree of uncertainty associated with environmental assessments. Our recommendations herein are based on an assumption of normal and acceptable risks, and the client needs to recognize and accept this risk to avoid impractical, unusual, or normally unwarranted response actions, responsibilities, and expenses.

2.4 Limitations and Exceptions

This inspection and report is limited in scope to the visual observations existing at the time of the inspections, and the public records available for review at that time. No special tests were conducted on any building element and no building elements were removed to reveal any conditions that may exist. No inaccessible areas were inspected.

2.5 User Reliance

The service provided for this assessment is for the benefit of the Biale Family, and is not transferable without assignment of reliance from CKG.

3.0 SITE DESCRIPTION

3.1 Location and Legal Description

The Site consists of two parcels, APN 038 361 009 and 010, (Plate 1) located south of El Centro Avenue in north central Napa, California. These parcels include 1583 and 1657 El Cantro Avenue. The one-acre part of the Property ate 1583 El Centro Avenue, where the residence is located is not included in this Phase I ESA.

3.2 Current Use of the Property

The Property is developed with one residence with a winery equipment storage building/garage, driveway and other storage buildings and it otherwise planted with grapes.

3.3 Description of Structures, Roads, Other Improvements on the Site

The residence and associated facilities were developed prior to 1942. The home is accessed from a driveway that runs south from El Centro Avenue. There is a domestic water well located in a small shed adjacent to the patio behind the house. The residence and storage buildings are wood framed on concrete foundations with wood or corrugated metal siding. The remainder of the site is occupied by the vineyard and driveways.

Water is provided by onsite well and sanitation is provided through a septic tank located to the southwest of the residence.

3.4 Current Uses of the Adjoining Properties

Adjacent properties are fully developed with residences. The following table summarizes occupancy on adjacent sites.

Adjacent Properties

Direction	Business/Operation
North	Single family residences
South	Single family residences
East	Single family residences
West	Single family residences
Northwest	Single family residences
Northeast	Single family residences
Southeast	Single family residences
Southwest	Single family residences

4.0 USER PROVIDED INFORMATION

The "user" is defined by ASTM Designation: E 1527-13 (Section 3.2.98) as the party seeking to use Practice E 1527 to perform an environmental site assessment of the property. A user may include, without limitation, a purchaser of property, an owner of property, a lender, or a property manager. The Biale Family is the user of this assessment.

4.1 Title Records

A chain of title was not made available for review.

4.2 Environmental Liens or Activity Use Limitations (AUL's)

The Biale Family is not aware of any environmental cleanup liens against the Property that are filed or recorded under federal, tribal, state or local law. There has been no disclosure or discovery of AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law.

4.3 Specialized Knowledge

The Biale Family, the user of this Phase I Environmental Site Assessment, stated that they do not have any specialized knowledge or experience related to the Property or nearby properties. Also, they have no specialized knowledge of the chemicals and processes that may be used by the Site and adjoining properties, with the exception of the use of two aboveground fuel storage tanks at the Property.

4.4 Actual Knowledge

The Biale Family, the user of this Phase I Environmental Site Assessment, stated that they do not have any actual knowledge or experience related to the Property or nearby properties. Also, they have no actual knowledge of the chemicals and processes that may be used by the Site (other than those described herein) and adjoining properties.

4.5 Valuation or Reduction for Environmental Issues

The Biale Family believes that the sales price being asked for the Property reasonably reflects the fair market value. In addition, they do not believe that the sales price is affected because contamination is known or believed to be present at the Property.

4.6 Commonly Known or Reasonably Ascertainable Information

The Biale Family is not aware of commonly known or reasonably ascertainable information about the Property that would help identify conditions indicative of releases or threatened releases of hazardous chemical or petroleum products other than those discussed in this document.

4.7 Obviousness

The Biale Family has not observed any obvious information or concerns about the Property that would help identify conditions indicative of releases or threatened releases of hazardous chemical or petroleum products with the exception of the use of two aboveground fuel storage tanks at the Property.

4.8 Reason for conducting Phase I Environmental Assessment

This Phase I Environmental Assessment has been performed for the benefit of the Biale Family The assessment documents "all appropriate inquiry into the previous ownership and uses of the Property with good commercial and customary practice" as defined in CERCLA, 42 USC 9601 (35) (B). By conducting "all appropriate inquiry" a party to a commercial real estate transaction can claim innocent purchaser landowner defense to CERCLA liability (42 USC 9601 (A) and (B) and 9607 (b) (3), assuming they comply with other elements of the defense.

4.9 Owner, Property Manager and Occupant Information

None provided.

5.0 RECORDS REVIEW

5.1 Standard Environmental Record Sources

CKG has retained the services of Environmental Data Resources, Inc. (EDR) to search public agency records at the federal, state and local levels for cases which could impact the Property according to the following table which conforms to ASTM Designation: E 1527-13:

ASTM Records Review Criteria

SOURCE OF REGULATORY INFO **Federal Databases:**	ACRONYM	SEARCH RADIUS
National Priority List	NPL	1.25 mile
Comprehensive Environmental Response and Liability Information System	CERCLIS	0.75 mile
CERCLIS No further Remedial Action Planned	CERCLIS-NFRAP	0.5 mile
Federal Resource Conservation and Recovery Act (RCRA) Corrective Action Treatment, Storage, and Disposal (TSD) Facilities (CORRACTS)	CORRACTS	1.25 mile
Resource Conservation and Recovery Act Treatment, Storage, and Disposal Facilities (non-CORRACTS)	RCRA TSD	0.75 mile
Resource Conservation and Recovery Act Hazardous Waste Generators	RCRA Gen	0.5 mile
Emergency Response Notification System	ERNS	Property Only
SOURCE OF REGULATORY INFO **State Databases**	ACRONYM	SEARCH RADIUS
Annual Work Plan	AWP	1.25 mile
Bond Expenditure Plan	BEP	1.25 mile
Calsites	Calsites	1.25 mile
California Environmental Protection Agency Office of Emergency Information	CORTESE	0.75 mile
California Hazardous Material Incident Report System	CHMIRS	Property and Adjoining Properties
Proposition 65 notifications	Notify 65	1.25 mile
Toxic Pits	Toxic Pits	1.25 mile
Solid Waste Information System	SWIS	0.75 mile
Registered Underground Storage Tanks	UST	0.5 mile
Leaking Underground Storage Tanks	LUST	0.75 mile
Data extracted from hazardous waste Manifests generated each year in California	HAZNET	Property and Adjoining Properties

A copy of the EDR report is included in Appendix A. Refer to the EDR report for the dates of each list. The most current lists available have been searched by EDR and reviewed by CKG.

The ASTM Standard search radii are designed to help identify those sites, which are capable of impacting the subject site. A complete listing for all databases searched with negative results can be found in the EDR report.

EDR reports sites within the ASTM prescribed radii in Federal and State databases. These sites may not be potential off-site sources of environmental conditions for the Property based upon distance or direction of groundwater flow. Only those active listings impacting groundwater that occur less than 500 feet from the Property in the upgradient direction are normally considered potential off-site sources of environmental conditions for the Property (Source: Recommendations to Improve the Cleanup Process for California's Leaking Underground Fuel Tanks, *Lawrence Livermore National Laboratory (LLNL) October 16, 1995)*. All the database listings occurring within the ASTM radii have been reviewed by CKG. Interested parties are encouraged to review the entire EDR report. For more information on the databases searched and the results, refer to the EDR Report included in Appendix A.

References to "down gradient" mean that a listing is located at a lower elevation on the inclined plane of the groundwater table. References to "cross gradient" mean that a listing is located horizontally along the inclined plane of the water table. In either geometry, a potential plume of groundwater contamination would not extend toward the subject site under normal circumstances.

NOTE: Due to limitations in Geocoding methodology, locations plotted by the EDR computer are field checked by CKG when sites with known environmental conditions can potentially impact a subject site (e.g. LUST and CSCS sites).

5.1.1 Database Listings for the Subject Site

The Property at 1657 El Centro Avenue appears in the Facility Index System database because it is an operating vineyard and utilizes the California Environmental Reporting System (CERS) to document usage of agricultural products. No violations were noted.

5.1.2 Database Listings for Neighboring Sites

The EDR report provided elevation information for each of the identified facilities as either being higher or lower than the Subject Site. Typically, groundwater flows from higher elevations to lower elevations following the regional topography. On this basis CKG expects groundwater to flow east-southeast toward the Napa River paralleling the flow of tributaries such as Salvador Creek and Redwood Creek. No facilities were identified in the EDR report that had the potential to adversely affect the Subject Site.

5.1.3 Vapor Encroachment Screening

CKG completed a Vapor Encroachment Screen for the Subject Site. The screen was conducted in accordance with the ASTM E 2600-10 methodology. CKG found no Vapor Encroachment Conditions (VEC) affecting the subject Site. There are no suspected vapor sources upgradient of the Site.

5.2 Physical Setting Sources

5.2.1 Regional Physiographic Setting

The Property is located in the north central part of the Napa Valley between the Vaca Mountain Range and the Napa River to the east and the Mayacamas Range to the west. The site is underlain by Quaternary alluvium deposited by the Napa River, which in turn is underlain by the Pliocene Sonoma Volcanics. The nearest perennial body of water is Salvador Creek, which drains to the east-southeast across the southern portion of the Subject Site. Topography slopes gently to the east-southeast.

5.2.2 Soil Conditions

The shallow soils underlying the surface of the Subject Site are identified as Haire Loam derived from Quaternary alluvial deposits. These alluvial deposits consist of interbedded and discontinuous clays, and silts.

5.3 Local Geology

The site lies within the Coast Range Geologic Province of California. This province is characterized by northwest trending mountain ranges and intervening valleys, which reflect the dominant northwest structural trend in bedrock of the region. The basement rock in the Mayacamas Mountains is variable and includes highly deformed sedimentary, metamorphic and volcanic rock of the Franciscan Complex of Upper Jurassic to Cretaceous Age, rhyolitic lava of the Sonoma Volcanics of Quaternary age and isolated fault bounded blocks of serpentinite.

Quaternary alluvial deposits derived primarily from drainage off the mountains adjacent to the site, fill the valleys. These deposits consist of unconsolidated clays, silts, sands and gravels underlain by bedrock.

5.4 Hydrogeology

Under normal circumstances, groundwater in sedimentary deposits essentially mirrors the elevation of the surface of the land, and flows toward lower elevations conforming to the slope of the topography. The direction and inclination of the surface of the water table define the groundwater gradient, but localized influences such as active wells or variations in subsurface geology can cause perturbations in the direction. The topography in the vicinity of the subject Site is sloped to the east southeast toward the Napa River, and this is the expected direction of local groundwater flow.

5.5 Historical Use Information on the Property

The Property history and land use has been recreated from a synthesis of historic Sanborn Maps, historical aerial photographs, historical topographic maps, interviews, public agency records, and other available resources.

Historical aerial photographs taken in 1947, 1959, 1968, 1973, 1982, 1993, 2005, 2006, 2009, 2010, and 2012, Google Earth photography available from 1993 through 2017; and historical Topographic maps from 1902, 1942, 1951, 1968, 1973, 1980, and 2012 were viewed (topographic maps and aerial photography not provided by Google Earth are presented in APPENDIX B).

The Property at 1687 El Centro Avenue was developed with the existing residence and agricultural equipment storage building, and a livestock shelter from at least 1942 until the present. The only obvious change was that the agricultural building became smaller over time. At 1583 El Centro Avenue there was a residence and outbuilding that was present until the late 1980s when it was replaced by the existing residence. The one-acre section of the residential section of the parcel is excluded from this Phase I ESA. Most of the property was used for pasture except for the section south of Salvador Creek and the front of 1687 El Centro Avenue which were planted with orchards. By 1973 some vineyards had been planted on the Property and by 1982 all the land was planted with vineyards.

5.6 Historical Use Information on the Adjoining Properties

The surrounding area was mainly agricultural orchard land and pasture until the first residential development was constructed around the Property starting in the late 1960s.

6.0 PROPERTY RECONNAISSANCE

6.1 Methodology and Limiting Conditions

Christina J. Kennedy of CKG conducted the property inspection on December 29, 2017. Ms. Kennedy is a State of California Registered Geologist (RG 5077). The Site was visually surveyed by personally observing the exterior and accessible spaces around the buildings.

6.2 General Site Setting

The Site consists of two parcels (Plate 1) located in north central Napa, California.

6.3 Exterior Observations

Condition	Yes	No
Signs of Illegal dumping of hazardous materials (stained soil or paved surfaces, stressed vegetation, odors, etc.).		X
Unidentified containers which contain substances suspected of being hazardous substances or petroleum products.		X
Above or below ground storage tanks and piping, including vent or fill pipes.	X	
Solid waste, wastewater wells, septic systems, or monitoring wells.	X	
Spill control, containment devices, or retention basins		X
Lagoons, impoundments, sumps, pits, dry wells, or drinking water wells.	X	

Two approximately 500-gallon above ground fuel storage tanks (gasoline and diesel) were located adjacent to the agricultural chemical storage building. The tanks were placed in secondary containment structures A domestic water supply well is located in a small shed behind the residence at 1657 El Centro Avenue. Sanitation is provided by an onsite septic system which is located as shown on Plate 1.

6.4 Interior Observations

Condition	Description
Heating/Cooling	Central heat and air conditioning in residences.
Stains or Corrosion	No significant present.
Drains and Sumps	None observed.
Interior Finishes	Interior finishes where present are drywall, paint on wood framing. With wood, tile or stone floors.

6.5 Property Construction and Utilities

Project Address	Utilities	Construction
Two Parcels 1583 and 1657 El Centro Avenue, Napa, CA	Water provided by an on-site well. Sanitation provided by an on-site septic system.	Single or two-story wood framed buildings on concrete foundations or concrete slab.

Appendix C contains a photographic log of observations made at the Site.

6.6 Hazardous Materials Use, Generation, and Disposal

Two approximately 500-gallon aboveground fuel storage tanks were observed. The tanks were used to store gasoline and diesel. Both tanks were in good condition and housed in sturdy secondary containment structures. Small quantities of vineyard management and equipment maintenance chemicals and small amounts of household cleaners also materials were observed at the Site. All materials were stored in either the equipment storage building or the smaller agricultural chemical storage building.

6.7 Asbestos Observations

Friable asbestos containing material (ACM) is defined as crushable to a powder with finger pressure, and the Environmental Protection Agency (EPA) states that any friable material containing greater than 1% asbestos is considered a hazardous material. Removal, alteration, or disturbance of these materials must be performed by trained asbestos personnel.

The manufacture of friable ACM was banned in 1978. The possible pre-1940s construction of the residence at 1657 El Centro Avenue suggests the possible existence of asbestos containing materials, although this residence has been renovated over the years. CKG has discussed this possibility with Heritage Sothebys Real Estate, representing the owner, who understands this and will address this issue, if needed, depending on the ultimate use of the buildings in the future. Non-friable ACM may exist in the roofing components, but CKG Environmental does not consider these products to be a health hazard so long as they are not rendered friable.

6.8 PCB Observations

Prior to 1975, PCB's were commonly used in di-electric fluids in transformers, capacitors, and fluorescent light ballasts due to their desirable thermal characteristics. In 1975, PCB's were demonstrated to be highly toxic and persistent in the environment. At that time the manufacture of PCB's was discontinued in the United States. A pole mounted transformer was located on a

pole between the two addresses, but this transformer is owned by Pacific Gas & Electric and has had all PCB containing oil removed from it if it were present.

7.0 INTERVIEWS

CKG Environmental interviewed Mr. Robert Biale the co-owner of the property on December 29, 2017 and January 8, 2018. Mr. Biale's family owned and operated the property since the 1940s. To Mr. Biale's knowledge, other than the hazardous materials already described herein, there are no, or ever have been, other hazardous materials storage areas or underground fuel storage tanks at the Property. Mr. Biale clarified that the aboveground fuel storage tanks had been used at the Property since possibly the 1950's and had been located where they are now and approximately 20 feet south of where they are not. The tanks were placed in secondary containment in the last few years.

8.0 EVALUATION

CKG has performed a Phase I Environmental Assessment in conformance with the scope and limitations of ASTM Designation: E 1527-13 of 1583 and 1657 El Centro Avenue in Napa, California. Any exceptions to, or deletions from, this practice are described in Section 2.4.

8.1 Conclusions

A thorough Property survey, a complete review of regulatory agency records, a review of local historical resources, and interviews with people with knowledge of the Site reveals the following potential environmental conditions on the Site.

2. The vicinity where the diesel and gasoline aboveground storage tanks were stored and dispensed. There is the potential that fuels may have been spilled onto the soil in this area. ASTs are very commonly used at winery properties. The likelihood of an enforcement action is small even if a release occurred. If impacted soil is encountered however, it may have to be managed appropriately.

No other recognized environmental conditions relating to the Property were observed.

8.2 Recommendations

The unknowns associated with the aboveground storage tanks discussed above can only be addressed by completing a subsurface investigation to collect soil samples and submit them for quantitative analysis for petroleum hydrocarbons. The presence of aboveground storage tanks and the use of pesticides is very common in agricultural properties. If the property owner or potential buyer would like to reduce any uncertainties regarding the presence of aboveground storage tanks CKG would be pleased to work with the interested party to develop a sampling program to address the concerns.

8.3 Data Gaps

CKG did not find any significant data gaps during this investigation that would affect our ability to identify recognized environmental conditions in connection with the Property.

8.4 Additional Services

When required by the user, CKG Environmental routinely performs a limited friable asbestos survey as an integral part of a Phase I Environmental Assessment. This service is not required for the Property.

9.0 DEVIATIONS

This Phase I Environmental Assessment has been conducted in conformance with ASTM Practice E 1527. The following deletions, deviations and additions apply.

Non-conforming Section	Rationale
Title Records (Section 4.1)	Title searches usually only provide a list of current and former owners of the Site and normally do not indicate its historical use. Therefore, a title search is not required by the Biale Family. as part of a Phase I Environmental Assessment performed on their behalf.
Did not enter private residence.	The 1657 El Centro residence was occupied at the time of the site visit. Exterior observations confirmed that the residence was in good condition and clearly being used for residential purposes only.

10.0 REFERENCES

Environmental Data Resources Inc. (EDR December 29, 2017)

Database Reports
Vapor Encroachment Survey
Environmental Lien Report
City Directory Abstract
Building Permit Report
Property Tax Report
Sanborn Maps
Aerial Photography
Historical Topographic Maps

Gregg Drilling Inc., 2007, Northern California Groundwater Elevations.
http://www.greggdrilling.com/Resources/water_table_n.html

Lawrence Livermore National Laboratory (LLNL), 1995, Recommendations to Improve the Cleanup Process for California's Leaking Underground Fuel Tanks (LUFTs) October 16, 1995

USGS Geologic Map of the Santa Rosa Quadrangle, Wagner D. L. and Bortugno E. J., 1982

PLATES

Base layer is unmodified ESRI Digital Data Set.

EXPLANATION

Site

Parcel Lines

0 80 160

Scale in Feet

CKG Environmental, Inc.

Site Location Map
1583 & 1657 El Centro Avenue
Napa, CA

PLATE
1

APPENDIX A

Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558

Inquiry Number: 5147412.2s
December 29, 2017

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	19
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-9
Physical Setting Source Map Findings	A-11
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

1583 & 1657 EL CENTRO AVENUE
NAPA, CA 94558

COORDINATES

Latitude (North):	38.3350220 - 38° 20' 6.07''
Longitude (West):	122.3146700 - 122° 18' 52.81''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	559897.2
UTM Y (Meters):	4243003.0
Elevation:	71 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5602154 NAPA, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140608
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
1583 & 1657 EL CENTRO AVENUE
NAPA, CA 94558

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	HOME RANCH	1657 EL CENTRO AVE	FINDS		TP
2	PGE TRANSFORMER	1900 TROWER	LUST	Lower	647, 0.123, SSE
A3	SHRADER, JEAN	4122 BYWAY E	LUST	Higher	969, 0.184, West
A4	SHRADER, JEAN	4122 BYWAY EAST	UST	Higher	969, 0.184, West
B5	JOHN MUIR INN	1998 TROWER AVE	LUST, SLIC	Higher	1089, 0.206, SSW
6	APARTMENT COMPLEX	1518 TROWER AVE	LUST	Lower	1107, 0.210, ESE
B7	OVENTI RESTAURANT &	1990 TROWER AVE	LUST, CHMIRS	Higher	1241, 0.235, SSW
8	BARITELLE WINERY	1546 ST HELENA HWY	LUST, HIST CORTESE	Higher	1402, 0.266, SSW
9	NVUSD: VINTAGE HIGH	1375 TROWER AVE	LUST, HAZNET	Lower	1831, 0.347, ESE
10	VIACOM VAULT	3940 SOLOMON CT	LUST	Lower	2106, 0.399, East
11	MCDONALD & SONS INC.	1473 SALVADOR AVE	LUST, SLIC	Higher	2275, 0.431, NNW
12	EXXON	1895 SALVADOR AVE	LUST, HIST CORTESE	Higher	2420, 0.458, WNW
13	ASBURY ENVIRONMENTAL	800 TOWER RD	HWP	Lower	2982, 0.565, East
14	ELECTRIC SUPPLY OF N	1735 TRANCAS STREET	Notify 65	Lower	4838, 0.916, SSE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
HOME RANCH 1657 EL CENTRO AVE NAPA, CA 94558	FINDS Registry ID:: 110057101899	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators

RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR ---------- EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database

HAULERS Registered Waste Tire Haulers Listing
INDIAN ODI Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 Torres Martinez Reservation Illegal Dump Site Locations
ODI Open Dump Inventory
IHS OPEN DUMPS Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL Delisted National Clandestine Laboratory Register
HIST Cal-Sites Historical Calsites Database
SCH School Property Evaluation Program
CDL Clandestine Drug Labs
Toxic Pits Toxic Pits Cleanup Act Sites
US CDL National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST SWEEPS UST Listing
HIST UST Hazardous Substance Storage Container Database
CA FID UST Facility Inventory Database

Local Land Records

LIENS Environmental Liens Listing
LIENS 2 CERCLA Lien Information
DEED Deed Restriction Listing

Records of Emergency Release Reports

HMIRS Hazardous Materials Information Reporting System
CHMIRS California Hazardous Material Incident Report System
LDS Land Disposal Sites Listing
MCS Military Cleanup Sites Listing
SPILLS 90 SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR RCRA - Non Generators / No Longer Regulated
FUDS Formerly Used Defense Sites
DOD Department of Defense Sites
SCRD DRYCLEANERS State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR Financial Assurance Information
EPA WATCH LIST EPA WATCH LIST
2020 COR ACTION 2020 Corrective Action Program List
TSCA Toxic Substances Control Act
TRIS Toxic Chemical Release Inventory System
SSTS Section 7 Tracking Systems
ROD Records Of Decision
RMP Risk Management Plans
RAATS RCRA Administrative Action Tracking System
PRP Potentially Responsible Parties
PADS PCB Activity Database System
ICIS Integrated Compliance Information System
FTTS FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
ABANDONED MINES ---- Abandoned Mines
UXO ---- Unexploded Ordnance Sites
ECHO ---- Enforcement & Compliance History Information
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
CA BOND EXP. PLAN ---- Bond Expenditure Plan
Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
CUPA Listings ---- CUPA Resources List
DRYCLEANERS ---- Cleaner Facilities
EMI ---- Emissions Inventory Data
ENF ---- Enforcement Action Listing
Financial Assurance ---- Financial Assurance Information Listing
HAZNET ---- Facility and Manifest Data
ICE ---- ICE
HWT ---- Registered Hazardous Waste Transporter Database
MINES ---- Mines Site Location Listing
MWMP ---- Medical Waste Management Program Listing
NPDES ---- NPDES Permits Listing
PEST LIC ---- Pesticide Regulation Licenses Listing
PROC ---- Certified Processors Database
UIC ---- UIC Listing
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
WIP ---- Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---- Recovered Government Archive Leaking Underground Storage Tank

EXECUTIVE SUMMARY

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 10 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHRADER, JEAN	4122 BYWAY E	W 1/8 - 1/4 (0.184 mi.)	A3	8
Database: NAPA CO. LUST, Date of Government Version: 01/09/2017 Status: Closed Permit ID: 248350				
JOHN MUIR INN	***1998 TROWER AVE***	***SSW 1/8 - 1/4 (0.206 mi.)***	***B5***	***9***
Database: NAPA CO. LUST, Date of Government Version: 01/09/2017 Status: Closed Permit ID: 248763				
OVENTI RESTAURANT &	***1990 TROWER AVE***	***SSW 1/8 - 1/4 (0.235 mi.)***	***B7***	***9***
Database: NAPA CO. LUST, Date of Government Version: 01/09/2017 Status: Closed Permit ID: 250054				
BARITELLE WINERY	***1546 ST HELENA HWY***	***SSW 1/4 - 1/2 (0.266 mi.)***	***8***	***11***
Database: LUST REG 2, Date of Government Version: 09/30/2004 Database: LUST, Date of Government Version: 09/11/2017 Status: Completed - Case Closed Facility Id: 28-0012 Facility Status: Case Closed Global Id: T0605500011 date9: 10/6/1995				
MCDONALD & SONS INC.	***1473 SALVADOR AVE***	***NNW 1/4 - 1/2 (0.431 mi.)***	***11***	***13***
Database: NAPA CO. LUST, Date of Government Version: 01/09/2017 Status: Closed Permit ID: 248145				
EXXON	***1895 SALVADOR AVE***	***WNW 1/4 - 1/2 (0.458 mi.)***	***12***	***14***
Database: LUST REG 2, Date of Government Version: 09/30/2004 Database: LUST, Date of Government Version: 09/11/2017				

Status: Completed - Case Closed
Facility Id: 28-0007
Facility Status: Preliminary site assessment workplan submitted
Global Id: T0605500006

Lower Elevation	Address	Direction / Distance	Map ID	Page
PGE TRANSFORMER	1900 TROWER	SSE 0 - 1/8 (0.123 mi.)	2	8
Database: NAPA CO. LUST, Date of Government Version: 01/09/2017 Status: Open Permit ID: 266162				
APARTMENT COMPLEX	1518 TROWER AVE	ESE 1/8 - 1/4 (0.210 mi.)	6	9
Database: NAPA CO. LUST, Date of Government Version: 01/09/2017 Status: Closed Permit ID: 248400				
NVUSD: VINTAGE HIGH	***1375 TROWER AVE***	***ESE 1/4 - 1/2 (0.347 mi.)***	***9***	***12***
Database: NAPA CO. LUST, Date of Government Version: 01/09/2017 Status: Closed Permit ID: 248599				
VIACOM VAULT	3940 SOLOMON CT	E 1/4 - 1/2 (0.399 mi.)	10	13
Database: NAPA CO. LUST, Date of Government Version: 01/09/2017 Status: Closed Permit ID: 248076				

SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the SLIC list, as provided by EDR, has revealed that there are 2 SLIC sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JOHN MUIR INN	***1998 TROWER AVE***	***SSW 1/8 - 1/4 (0.206 mi.)***	***B5***	***9***
Database: SLIC, Date of Government Version: 09/11/2017 Facility Status: Completed - Case Closed Global Id: T10000003605				
MCDONALD & SONS INC.	***1473 SALVADOR AVE***	***NNW 1/4 - 1/2 (0.431 mi.)***	***11***	***13***
Database: SLIC REG 2, Date of Government Version: 09/30/2004 Database: SLIC, Date of Government Version: 09/11/2017 Facility Status: Completed - Case Closed Facility Id: 28S0042 Global Id: SL605592678				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there is 1 UST site within

approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHRADER, JEAN	4122 BYWAY EAST	W 1/8 - 1/4 (0.184 mi.)	A4	8
Database: NAPA CO. UST, Date of Government Version: 11/22/2017				
Facility Id: NAPA0632				

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 2 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARITELLE WINERY	***1546 ST HELENA HWY***	***SSW 1/4 - 1/2 (0.266 mi.)***	***8***	***11***
Reg Id: 28-0012				
EXXON	***1895 SALVADOR AVE***	***WNW 1/4 - 1/2 (0.458 mi.)***	***12***	***14***
Reg Id: 28-0007				

HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the HWP list, as provided by EDR, and dated 11/20/2017 has revealed that there is 1 HWP site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ASBURY ENVIRONMENTAL	800 TOWER RD	E 1/2 - 1 (0.565 mi.)	13	16
EPA Id: CAL000092456				
EPA Id: CAL000169735				
Cleanup Status: CLOSED				

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 06/16/2017 has revealed that there is 1 Notify 65 site within approximately 1 mile of the target property.

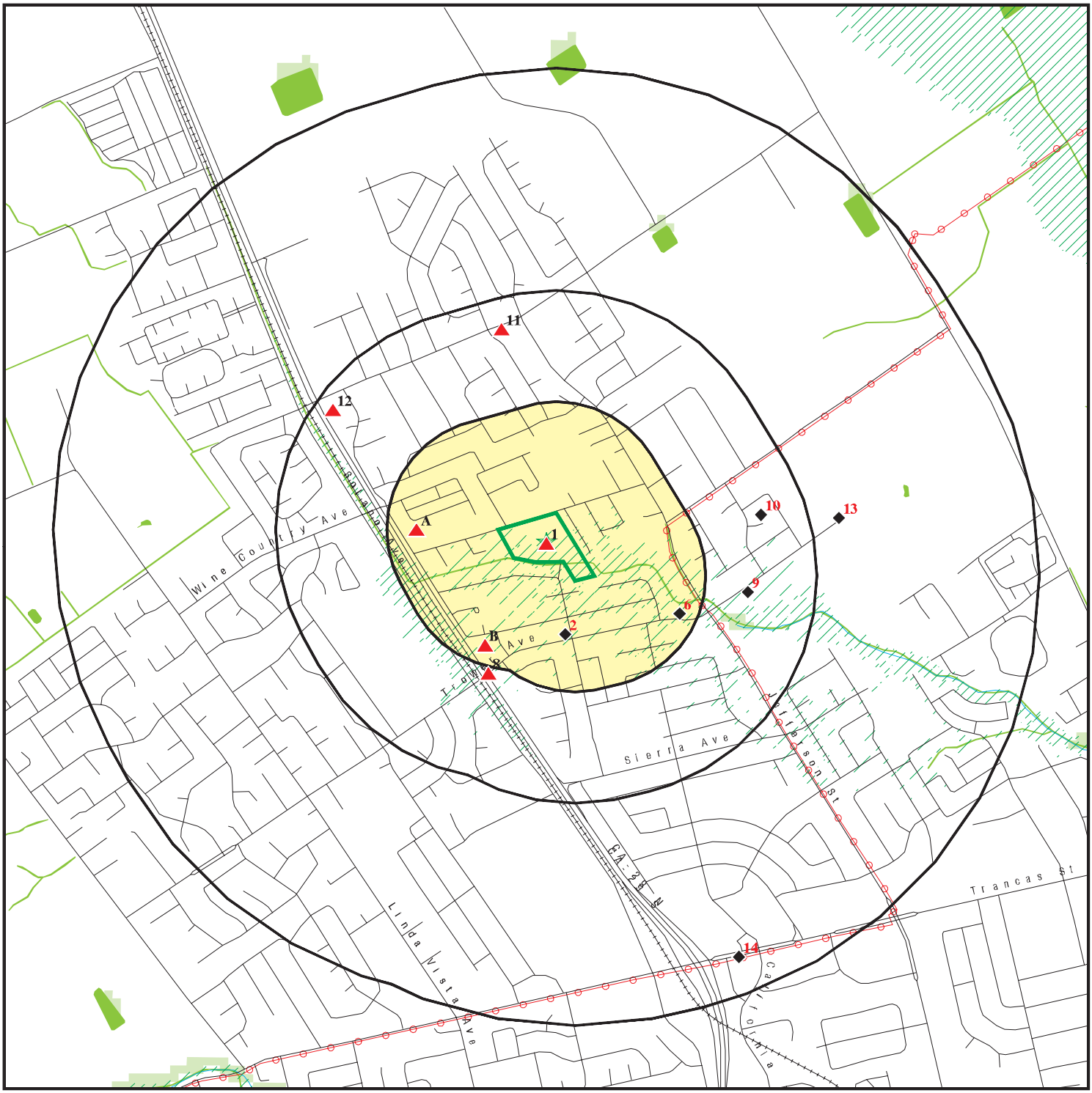
Lower Elevation	Address	Direction / Distance	Map ID	Page
ELECTRIC SUPPLY OF N	1735 TRANCAS STREET	SSE 1/2 - 1 (0.916 mi.)	14	18

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
INTERSECTION	LUST
INTERSECTION	LUST
COTTONWOOD HOMES	LUST

OVERVIEW MAP - 5147412.2S



0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Upgradient Area
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Biale Vineyards	CLIENT:	CKG Environmental
ADDRESS:	1583 & 1657 El Centro Avenue Napa CA 94558	CONTACT:	Chris Kennedy
LAT/LONG:	38.335022 / 122.31467	INQUIRY #:	5147412.2s
		DATE:	December 29, 2017 1:20 pm

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DETAIL MAP - 5147412.2S

Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Biale Vineyards	CLIENT:	CKG Environmental
ADDRESS:	1583 & 1657 El Centro Avenue Napa CA 94558	CONTACT:	Chris Kennedy
		INQUIRY #:	5147412.2s
LAT/LONG:	38.335022 / 122.31467	DATE:	December 29, 2017 1:23 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		1	4	5	NR	NR	10

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	1	1	NR	NR	2
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	1	NR	NR	NR	1
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001	1	0	NR	NR	NR	NR	1
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	2	NR	NR	2
HWP	1.000		0	0	0	1	NR	1
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	1	NR	1
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		1	1	6	8	2	0	18

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
Target
Property

HOME RANCH
1657 EL CENTRO AVE
NAPA, CA 94558

FINDS **1016717285**
N/A

FINDS:

Actual:
71 ft.

Registry ID: 110057101899

Environmental Interest/Information System
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

2
SSE
< 1/8
0.123 mi.
647 ft.

PGE TRANSFORMER
1900 TROWER
NAPA, CA 94558

LUST **S119102675**
N/A

Relative:
Lower

Actual:
69 ft.

NAPA CO. LUST:
Permit ID: 266162
Status: Open
Permit Type: Non-LOP
District: 2

A3
West
1/8-1/4
0.184 mi.
969 ft.

SHRADER, JEAN
4122 BYWAY E
NAPA, CA 94558
Site 1 of 2 in cluster A

LUST **S119102576**
N/A

Relative:
Higher

Actual:
76 ft.

NAPA CO. LUST:
Permit ID: 248350
Status: Closed
Permit Type: Non-LOP
District: 0

A4
West
1/8-1/4
0.184 mi.
969 ft.

SHRADER, JEAN
4122 BYWAY EAST
NAPA, CA
Site 2 of 2 in cluster A

UST **U003114640**
N/A

Relative:
Higher

Actual:
76 ft.

NAPA CO. UST:
Facility ID: NAPA0632
Permit ID: Not reported
Facility Status: Not reported
Permit Type: Not reported
District: Not reported
Num of Tanks: 0

B5 **JOHN MUIR INN** **LUST S111711563**
SSW **1998 TROWER AVE** **SLIC N/A**
1/8-1/4 **NAPA, CA 94558**
0.206 mi.
1089 ft. **Site 1 of 2 in cluster B**

Relative:
Higher

Actual:
74 ft.

NAPA CO. LUST:
Permit ID: 248763
Status: Closed
Permit Type: Non-LOP
District: 2

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	10/15/2012
Global Id:	T10000003605
Lead Agency:	NAPA COUNTY
Lead Agency Case Number:	E 2989
Latitude:	38.3316670174619
Longitude:	-122.317335605621
Case Type:	Cleanup Program Site
Case Worker:	JTN
Local Agency:	NAPA COUNTY
RB Case Number:	Not reported
File Location:	Local Agency
Potential Media Affected:	Other Groundwater (uses other than drinking water), Soil
Potential Contaminants of Concern:	Diesel, Waste Oil / Motor / Hydraulic / Lubricating
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

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6 **APARTMENT COMPLEX** **LUST S119102593**
ESE **1518 TROWER AVE** **N/A**
1/8-1/4 **NAPA, CA 94558**
0.210 mi.
1107 ft.

Relative:
Lower

Actual:
64 ft.

NAPA CO. LUST:
Permit ID: 248400
Status: Closed
Permit Type: Non-LOP
District: 0

B7 **OVENTI RESTAURANT & BAKERY** **LUST S116779705**
SSW **1990 TROWER AVE** **CHMIRS N/A**
1/8-1/4 **NAPA, CA 94558**
0.235 mi.
1241 ft. **Site 2 of 2 in cluster B**

Relative:
Higher

Actual:
74 ft.

NAPA CO. LUST:
Permit ID: 250054
Status: Closed
Permit Type: Non-LOP
District: 2

CHMIRS:

OVENTI RESTAURANT & BAKERY (Continued) **S116779705**

OES Incident Number:	4-3252
OES notification:	06/09/2014
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Road
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1800
Year:	2014
Agency:	PG&E
Incident Date:	6/8/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Non PCB Transformer Oil
Quantity Released:	70
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported

OVENTI RESTAURANT & BAKERY (Continued) **S116779705**

Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Collision
Fatals:	No
Comments:	Not reported
Description:	Caller states a vehicle struck a pad mount transformer resulting in the release of 70 gallons of non PCB transformer oil onto the surrounding soil and sidewalk. A contractor is handling the clean up and it is ongoing. No waterways impacted.

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8 **BARITELLE WINERY** **LUST S105025137**
SSW **1546 ST HELENA HWY** **HIST CORTESE N/A**
1/4-1/2 **NAPA, CA 94558**
0.266 mi.
1402 ft.

Relative:
Higher

Actual:
74 ft.

LUST:

Lead Agency:	NAPA COUNTY
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605500011
Global Id:	T0605500011
Latitude:	38.16394
Longitude:	-122.25522
Status:	Completed - Case Closed
Status Date:	10/06/1995
Case Worker:	ZZZ
RB Case Number:	28-0012
Local Agency:	NAPA COUNTY
File Location:	Not reported
Local Case Number:	28-0012
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Diesel
Site History:	Not reported

LUST:

Global Id:	T0605500011
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	NAPA COUNTY
Address:	1195 THIRD ST., ROOM 101
City:	NAPA
Email:	Not reported
Phone Number:	7072534269

LUST:

Global Id:	T0605500011
Action Type:	Other
Date:	02/06/1991
Action:	Leak Discovery

BARITELLE WINERY (Continued) **S105025137**

Global Id: T0605500011
Action Type: Other
Date: 02/06/1991
Action: Leak Reported

Global Id: T0605500011
Action Type: Other
Date: 02/06/1991
Action: Leak Stopped

LUST:
Global Id: T0605500011
Status: Completed - Case Closed
Status Date: 10/06/1995

Global Id: T0605500011
Status: Open - Case Begin Date
Status Date: 02/06/1991

LUST REG 2:
Region: 2
Facility Id: 28-0012
Facility Status: Case Closed
Case Number: 28-0012
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

HIST CORTESE:
Region: CORTESE
Facility County Code: 28
Reg By: LTNKA
Reg Id: 28-0012

---

9 **NVUSD: VINTAGE HIGH SCHOOL** **LUST** **S112913752**
ESE **1375 TROWER AVE** **HAZNET** **N/A**
1/4-1/2 **NAPA, CA 94558**
0.347 mi.
1831 ft.

Relative:
Lower

Actual:
58 ft.

NAPA CO. LUST:
Permit ID: 248599
Status: Closed
Permit Type: Non-LOP
District: 0

NVUSD: VINTAGE HIGH SCHOOL (Continued) **S112913752**

HAZNET:

envid:	S112913752
Year:	2001
GEPAID:	CAC002345255
Contact:	LARRY HOLBROOK/SUP
Telephone:	7072533602
Mailing Name:	Not reported
Mailing Address:	1375 TROWER AVE
Mailing City,St,Zip:	NAPA, CA 945580000
Gen County:	Not reported
TSD EPA ID:	CAD059494310
TSD County:	Not reported
Waste Category:	Liquids with halogenated organic compounds >= 1,000 Mg./L
Disposal Method:	Disposal, Other
Tons:	0.83
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Napa

10
East
1/4-1/2
0.399 mi.
2106 ft.

VIACOM VAULT **LUST** **S119102541**
3940 SOLOMON CT **N/A**
NAPA, CA 94559

Relative:
Lower

Actual:
63 ft.

NAPA CO. LUST:

Permit ID:	248076
Status:	Closed
Permit Type:	Non-LOP
District:	0

11
NNW
1/4-1/2
0.431 mi.
2275 ft.

MCDONALD & SONS INC. **LUST** **S106234973**
1473 SALVADOR AVE **SLIC** **N/A**
NAPA, CA 94558

Relative:
Higher

Actual:
78 ft.

NAPA CO. LUST:

Permit ID:	248145
Status:	Closed
Permit Type:	Non-LOP
District:	0

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	11/06/2001
Global Id:	SL605592678
Lead Agency:	SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number:	Not reported
Latitude:	38.342092
Longitude:	-122.316634
Case Type:	Cleanup Program Site
Case Worker:	UUU
Local Agency:	Not reported

MCDONALD & SONS INC. (Continued) **S106234973**

RB Case Number: 28S0042
File Location: Not reported
Potential Media Affected: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 2:
Region: 2
Facility ID: 28S0042
Facility Status: Case Closed
Date Closed: Not reported
Local Case #: Not reported
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Confirmed: Not reported
Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

12
WNW
1/4-1/2
0.458 mi.
2420 ft.

EXXON **LUST S101307660**
1895 SALVADOR AVE **HIST CORTESE N/A**
NAPA, CA 94558

Relative:
Higher

Actual:
86 ft.

LUST:
Lead Agency: NAPA COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605500006
Global Id: T0605500006
Latitude: 38.339119
Longitude: -122.323426
Status: Completed - Case Closed
Status Date: 04/13/2009
Case Worker: JTN
RB Case Number: 28-0007
Local Agency: NAPA COUNTY
File Location: Local Agency
Local Case Number: 0184
Potential Media Affect: Well used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:
Global Id: T0605500006
Contact Type: Local Agency Caseworker
Contact Name: James Newman, P.G., C.E.G.
Organization Name: NAPA COUNTY
Address: 1195 THIRD STREET, SUITE 101
City: NAPA
Email: james.newman@countyofnapa.org
Phone Number: Not reported

EXXON (Continued) **S101307660**

LUST:
Global Id: T0605500006
Action Type: REMEDIATION
Date: 03/01/1979
Action: Free Product Removal

Global Id: T0605500006
Action Type: ENFORCEMENT
Date: 06/13/2006
Action: File review

Global Id: T0605500006
Action Type: Other
Date: 04/27/1989
Action: Leak Reported

Global Id: T0605500006
Action Type: ENFORCEMENT
Date: 09/25/2003
Action: Staff Letter

Global Id: T0605500006
Action Type: ENFORCEMENT
Date: 10/24/2008
Action: Site Visit / Inspection / Sampling

Global Id: T0605500006
Action Type: ENFORCEMENT
Date: 04/13/2009
Action: Closure/No Further Action Letter

Global Id: T0605500006
Action Type: Other
Date: 12/23/1977
Action: Leak Stopped

Global Id: T0605500006
Action Type: ENFORCEMENT
Date: 03/24/2009
Action: Notification - Public Notice of Case Closure

Global Id: T0605500006
Action Type: REMEDIATION
Date: 12/02/1988
Action: Excavation

Global Id: T0605500006
Action Type: Other
Date: 12/23/1977
Action: Leak Discovery

LUST:
Global Id: T0605500006
Status: Completed - Case Closed
Status Date: 04/13/2009

EXXON (Continued) **S101307660**

Global Id: T0605500006
Status: Open - Case Begin Date
Status Date: 12/23/1977

Global Id: T0605500006
Status: Open - Site Assessment
Status Date: 01/07/1997

LUST REG 2:
Region: 2
Facility Id: 28-0007
Facility Status: Preliminary site assessment workplan submitted
Case Number: 0184
How Discovered: VS
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: 1/7/1997
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

HIST CORTESE:
Region: CORTESE
Facility County Code: 28
Reg By: LTNKA
Reg Id: 28-0007

13
East
1/2-1
0.565 mi.
2982 ft.

Relative:
Lower

Actual:
57 ft.

ASBURY ENVIRONMENTAL SERVICES **HWP** **S102334124**
800 TOWER RD **N/A**
NAPA, CA 94558

HWP:
EPA Id: CAL000092456
Cleanup Status: CLOSED
Latitude: 38.21157
Longitude: -122.2634
Facility Type: Historical - Non-Operating
Facility Size: Not reported
Team: Not reported
Supervisor: Not reported
Site Code: 201307
Assembly District: 04
Senate District: 03
Public Information Officer: Not reported
Public Information Officer: Not reported

Activities:
EPA Id: CAL000092456
Facility Type: Historical - Non-Operating
Unit Names: Not reported

ASBURY ENVIRONMENTAL SERVICES (Continued) **S102334124**

Event Description: New Operating Permit - FINAL PERMIT - WITHDRAWAL REQUEST RECEIVED
Actual Date: 06/15/1996

EPA Id: CAL000092456
Facility Type: Historical - Non-Operating
Unit Names: Not reported
Event Description: New Operating Permit - APPLICATION PART B RECEIVED
Actual Date: 03/31/1994

Closure:
EPA Id: CAL000092456
Facility Type: Historical - Non-Operating
Unit Names: STTANKSTR
Event Description: Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date: 01/29/2002

EPA Id: CAL000092456
Facility Type: Historical - Non-Operating
Unit Names: STTANKSTR
Event Description: Closure Final - RECEIVE CLOSURE CERTIFICATION
Actual Date: 01/05/2000

Alias:
EPA Id: CAL000092456
Facility Type: Historical - Non-Operating
Alias Type: Project Code (Site Code)
Alias: 201307

EPA Id: CAL000169735
Cleanup Status: CLOSED
Latitude: 38.21157
Longitude: -122.2634
Facility Type: Historical - Non-Operating
Facility Size: Not reported
Team: Not reported
Supervisor: Not reported
Site Code: 201307
Assembly District: 04
Senate District: 03
Public Information Officer: Not reported
Public Information Officer: Not reported

Closure:
EPA Id: CAL000169735
Facility Type: Historical - Non-Operating
Unit Names: unit1
Event Description: Closure Administrative - ISSUE CLOSURE VERIFICATION
Actual Date: 01/04/2017

Alias:
EPA Id: CAL000169735
Facility Type: Historical - Non-Operating
Alias Type: Project Code (Site Code)
Alias: 201307

14
SSE
1/2-1
0.916 mi.
4838 ft.

ELECTRIC SUPPLY OF NAPA
1735 TRANCAS STREET
NAPA, CA 92543

Notify 65 **S100179581**
N/A

Relative:
Lower

Actual:
69 ft.

NOTIFY 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Issue Date:	Not reported
Incident Description:	Not reported

Count: 3 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
NAPA	S119102652	INTERSECTION	JEFFERSON ST	94558	LUST
NAPA	S119102656	INTERSECTION	TROWER AVE	94558	LUST
NAPA	S119102646	COTTONWOOD HOMES	WISE DR	94558	LUST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/10/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 42

Source: EPA
Telephone: N/A
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 04/16/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/10/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 42

Source: EPA
Telephone: N/A
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 04/16/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/10/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 42

Source: EPA
Telephone: N/A
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 04/16/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/06/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/21/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 77

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/28/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 70

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/22/2017
Date Data Arrived at EDR: 06/13/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 94

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/08/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/10/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/27/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/10/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/27/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/18/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 22

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/28/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 10/30/2017
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 45

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 10/30/2017
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 45

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/13/2017
Date Data Arrived at EDR: 11/14/2017
Date Made Active in Reports: 12/07/2017
Number of Days to Update: 23

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27
Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 58
Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29
Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22
Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 31
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/07/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 58
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 57
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/12/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 134
Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 10/30/2017
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 45

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/20/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/21/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 49
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 08/21/2017
Date Data Arrived at EDR: 09/20/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/19/2017
Next Scheduled EDR Contact: 04/02/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 9
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/12/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 05/31/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 76

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/09/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/30/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/20/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 07/13/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 30

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/28/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 10/30/2017
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 45

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/13/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 30

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/28/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 11/27/2017
Date Data Arrived at EDR: 11/29/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 19

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/28/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/31/2017
Date Data Arrived at EDR: 09/05/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/05/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63
Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/21/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 22
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/28/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 05/09/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 57
Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 58
Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 58
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/22/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/17/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 10/17/2017
Date Data Arrived at EDR: 11/01/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 37
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/09/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 04/02/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 8

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/08/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/26/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2017
Date Data Arrived at EDR: 10/05/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 8
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 78

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 12/18/2017
Next Scheduled EDR Contact: 04/02/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/02/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/22/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/10/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 04/16/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/28/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 12/01/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 12/01/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/25/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 24

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/19/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/23/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 9

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2016
Date Data Arrived at EDR: 06/02/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 133

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 02/13/2017
Date Data Arrived at EDR: 02/15/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 261

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/17/2017
Date Data Arrived at EDR: 08/17/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 29

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/21/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 22

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 147

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/22/2017
Next Scheduled EDR Contact: 04/02/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 12/07/2017
Number of Days to Update: 34

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 10/23/2017
Date Data Arrived at EDR: 10/24/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 52

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/14/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 31

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/09/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 97

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/20/2017
Date Data Arrived at EDR: 11/20/2017
Date Made Active in Reports: 12/27/2017
Number of Days to Update: 37

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/20/2017
Date Data Arrived at EDR: 11/20/2017
Date Made Active in Reports: 12/27/2017
Number of Days to Update: 37
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/10/2017
Date Data Arrived at EDR: 10/10/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 7
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/01/2017
Number of Days to Update: 50
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/12/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 09/01/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/13/2017
Date Data Arrived at EDR: 11/14/2017
Date Made Active in Reports: 12/07/2017
Number of Days to Update: 23
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 09/05/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 10/18/2017
Number of Days to Update: 36
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/12/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 06/16/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 119
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/13/2017
Next Scheduled EDR Contact: 04/02/2018
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 94
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/12/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/19/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 09/22/2017
Date Data Arrived at EDR: 09/22/2017
Date Made Active in Reports: 10/10/2017
Number of Days to Update: 18

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/11/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 27

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 12/08/2017
Date Data Arrived at EDR: 12/12/2017
Date Made Active in Reports: 12/27/2017
Number of Days to Update: 15

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 08/31/2017
Date Data Arrived at EDR: 09/05/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 64

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/20/2017
Next Scheduled EDR Contact: 10/09/2017
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/17/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/30/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 10/31/2017
Date Data Arrived at EDR: 11/01/2017
Date Made Active in Reports: 11/14/2017
Number of Days to Update: 13

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/25/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 12/04/2017
Date Data Arrived at EDR: 12/06/2017
Date Made Active in Reports: 12/27/2017
Number of Days to Update: 21

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/30/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/03/2017
Date Data Arrived at EDR: 10/06/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 40

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 10/25/2017
Date Data Arrived at EDR: 10/27/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 19

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/03/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 10/23/2017
Date Data Arrived at EDR: 10/24/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 22

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/08/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 56

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/20/2017
Number of Days to Update: 43

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/14/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 28

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 11/09/2017
Date Data Arrived at EDR: 11/10/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 5

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 07/24/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 82

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206
Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 12/13/2017
Next Scheduled EDR Contact: 04/02/2018
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 10/11/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 5
Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/16/2017
Date Data Arrived at EDR: 10/17/2017
Date Made Active in Reports: 12/07/2017
Number of Days to Update: 51
Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/17/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 10/09/2017
Number of Days to Update: 171
Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/14/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 31
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/14/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 69

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 10/26/2017
Date Data Arrived at EDR: 10/27/2017
Date Made Active in Reports: 11/06/2017
Number of Days to Update: 10

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/28/2017
Date Data Arrived at EDR: 10/05/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 34

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 10/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 14

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 11/21/2017
Date Data Arrived at EDR: 11/27/2017
Date Made Active in Reports: 12/27/2017
Number of Days to Update: 30

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/15/2017
Date Made Active in Reports: 11/28/2017
Number of Days to Update: 74
Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 11/22/2017
Date Data Arrived at EDR: 11/27/2017
Date Made Active in Reports: 12/19/2017
Number of Days to Update: 22
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 8
Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/25/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/09/2017
Date Made Active in Reports: 12/07/2017
Number of Days to Update: 28
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/09/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 36
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/19/2017
Number of Days to Update: 42

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/07/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/05/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 10/23/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 12

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/11/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 28

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/15/2017
Next Scheduled EDR Contact: 04/02/2018
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/12/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/15/2017
Next Scheduled EDR Contact: 04/02/2018
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 3

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 44

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 11/17/2017
Number of Days to Update: 14

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/31/2017
Date Data Arrived at EDR: 09/19/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 58

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/05/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/29/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/19/2017
Number of Days to Update: 42
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 10/03/2017
Date Data Arrived at EDR: 10/06/2017
Date Made Active in Reports: 10/10/2017
Number of Days to Update: 4
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/13/2017
Next Scheduled EDR Contact: 04/02/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/16/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 31
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 09/15/2017
Date Data Arrived at EDR: 09/19/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 28
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/06/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/15/2017
Date Data Arrived at EDR: 09/19/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 51
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/06/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 12/13/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/10/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 67
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 12/07/2017
Number of Days to Update: 34

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/26/2017
Date Data Arrived at EDR: 09/27/2017
Date Made Active in Reports: 11/10/2017
Number of Days to Update: 44

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/08/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/26/2017
Date Data Arrived at EDR: 09/27/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 42

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/08/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 09/25/2017
Date Data Arrived at EDR: 09/27/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 50

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/19/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 10/03/2017
Date Data Arrived at EDR: 10/06/2017
Date Made Active in Reports: 11/10/2017
Number of Days to Update: 35

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/19/2017
Next Scheduled EDR Contact: 04/09/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/10/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 6

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 12/01/2017
Date Data Arrived at EDR: 12/04/2017
Date Made Active in Reports: 12/19/2017
Number of Days to Update: 15

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 12/01/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List

Cupa facilities

Date of Government Version: 11/16/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 31

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 10/23/2017
Date Data Arrived at EDR: 10/24/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 09/28/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 18

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 12/18/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 10/24/2017
Date Data Arrived at EDR: 10/25/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 22

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 09/26/2017
Date Data Arrived at EDR: 10/25/2017
Date Made Active in Reports: 12/07/2017
Number of Days to Update: 43

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/26/2017
Next Scheduled EDR Contact: 04/16/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/08/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 09/26/2017
Date Data Arrived at EDR: 10/25/2017
Date Made Active in Reports: 12/07/2017
Number of Days to Update: 43

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/28/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 9

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/11/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 10/02/2017
Date Made Active in Reports: 11/14/2017
Number of Days to Update: 43

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 11/08/2017
Date Data Arrived at EDR: 11/10/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 6

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/25/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/11/2017
Date Data Arrived at EDR: 11/14/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 34

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 107

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/01/2017
Date Data Arrived at EDR: 11/01/2017
Date Made Active in Reports: 11/13/2017
Number of Days to Update: 12

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/16/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/11/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

BIALE VINEYARDS
1583 & 1657 EL CENTRO AVENUE
NAPA, CA 94558

TARGET PROPERTY COORDINATES

Latitude (North):	38.335022 - 38° 20' 6.08''
Longitude (West):	122.31467 - 122° 18' 52.81''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	559897.2
UTM Y (Meters):	4243003.0
Elevation:	71 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5602154 NAPA, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

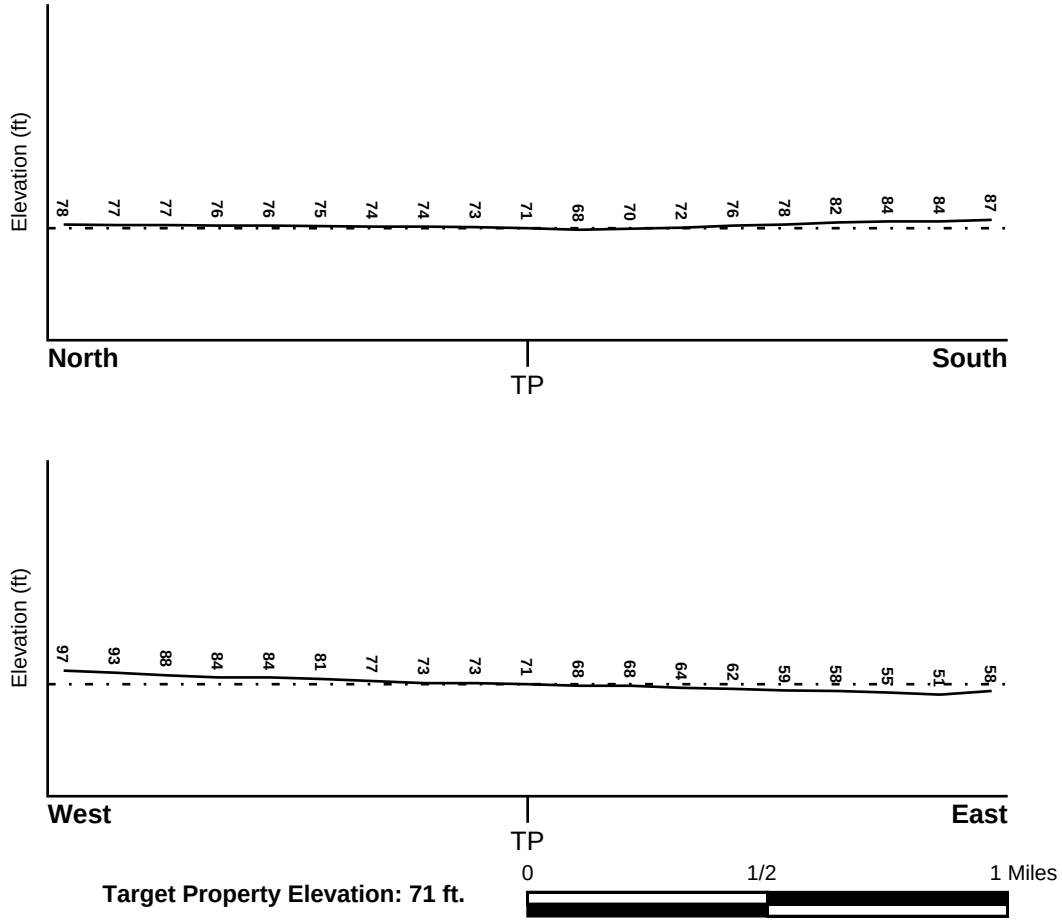
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ESE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 71 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06055C0504F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06055C0505F	FEMA FIRM Flood data
06055C0510F	FEMA FIRM Flood data
06055C0508F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NAPA	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

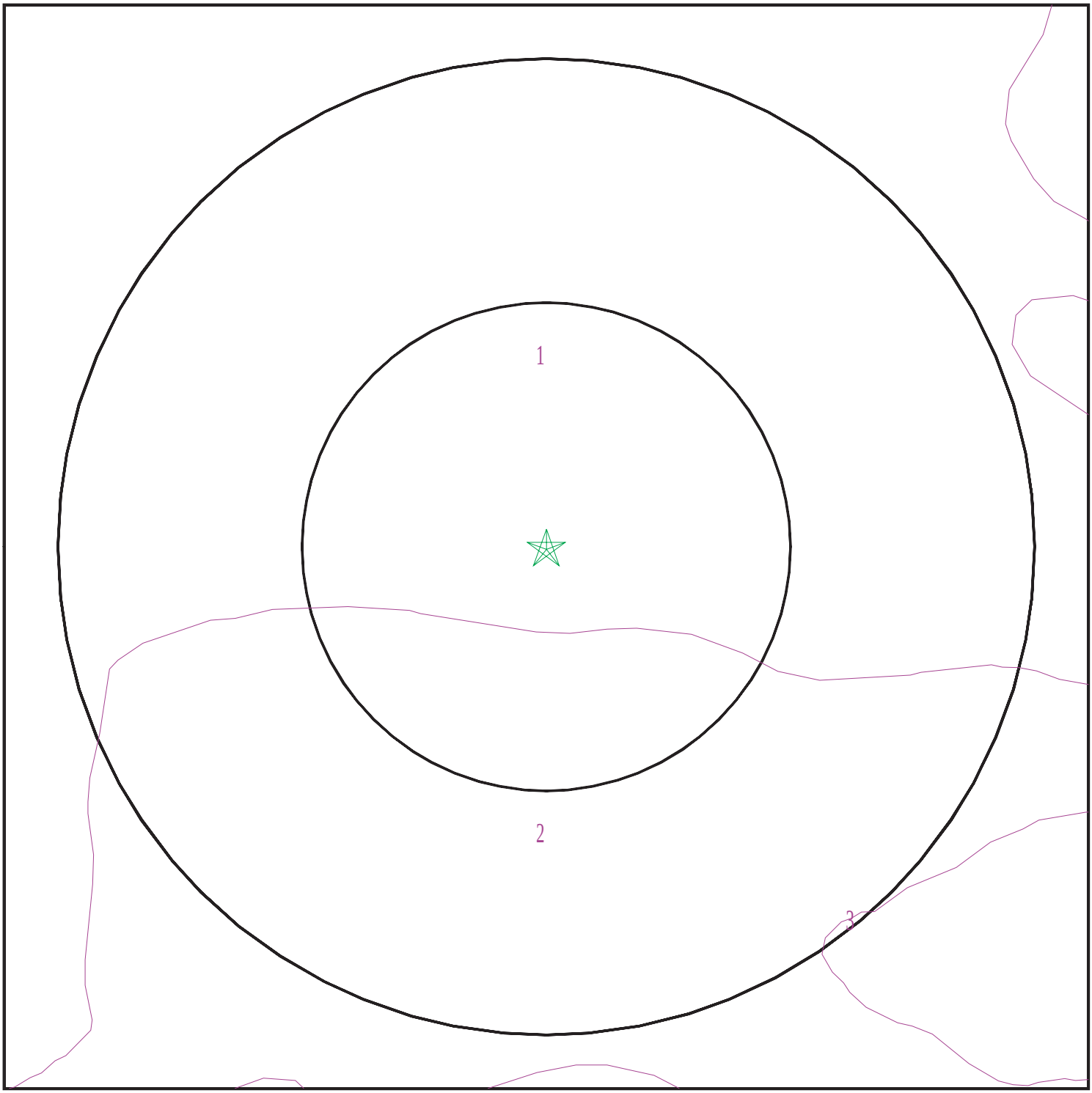
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5147412.2s



SITE NAME:	Biale Vineyards	CLIENT:	CKG Environmental
ADDRESS:	1583 & 1657 El Centro Avenue Napa CA 94558	CONTACT:	Chris Kennedy
		INQUIRY #:	5147412.2s
LAT/LONG:	38.335022 / 122.31467	DATE:	December 29, 2017 1:23 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: HAIRE

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	22 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 6 Min: 5.1
2	22 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 4 Min: 1.4	Max: 6 Min: 5.1
3	27 inches	44 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 5.5 Min: 4.5
4	44 inches	59 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 5.5 Min: 4.5

Soil Map ID: 2

Soil Component Name: CLEAR LAKE

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	31 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.1
2	31 inches	68 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.4

Soil Map ID: 3

Soil Component Name: HAIRE

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	22 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 6 Min: 5.1
2	22 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 4 Min: 1.4	Max: 6 Min: 5.1
3	27 inches	44 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 5.5 Min: 4.5
4	44 inches	59 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.42 Min: 0.01	Max: 5.5 Min: 4.5

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000187881	1/4 - 1/2 Mile East
5	USGS40000187852	1/2 - 1 Mile ESE
A7	USGS40000187916	1/2 - 1 Mile NW
8	USGS40000187805	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

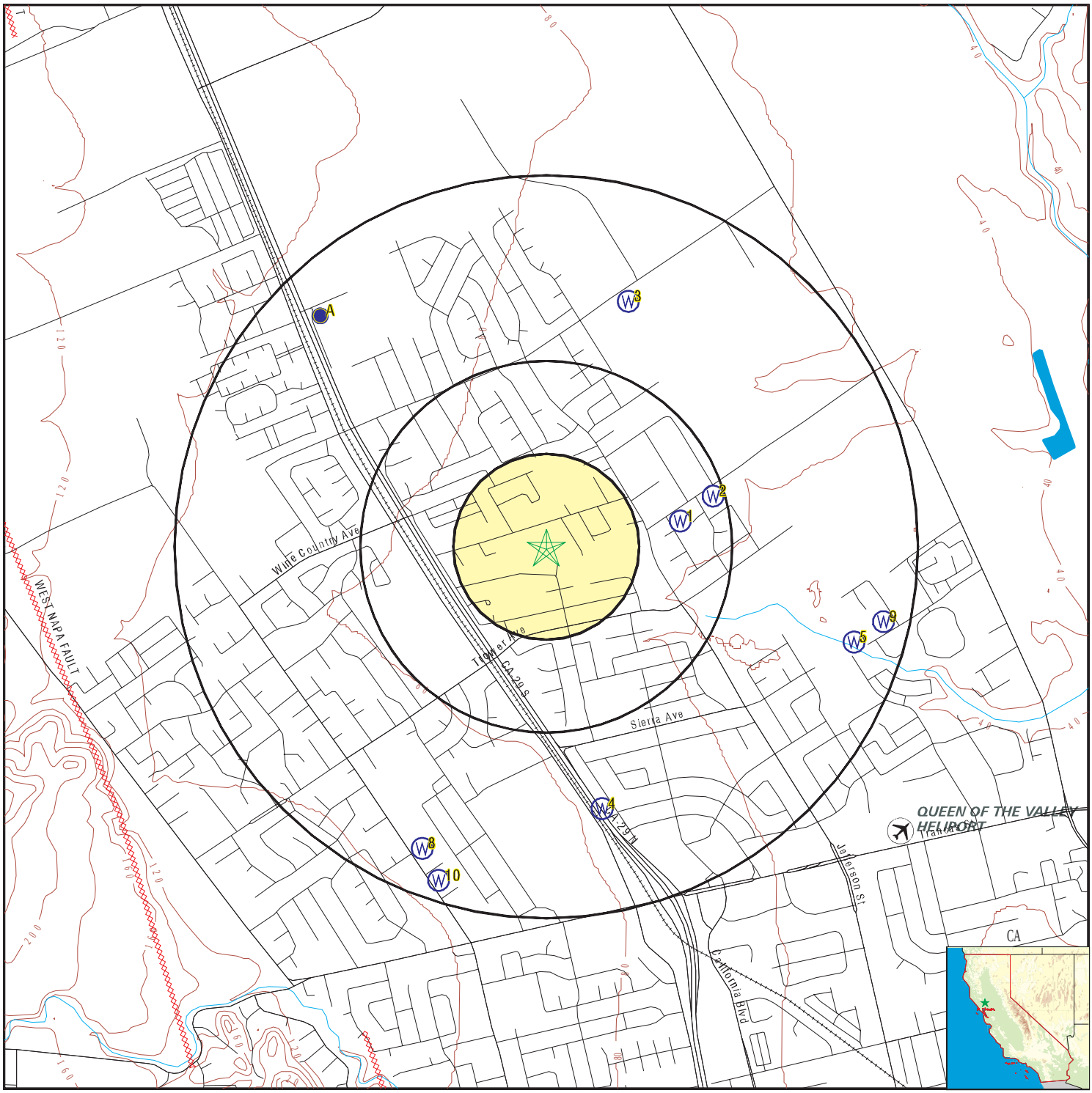
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	CADW60000013053	1/4 - 1/2 Mile ENE
3	CADW60000000038	1/2 - 1 Mile NNE
4	CADW60000014383	1/2 - 1 Mile SSE
A6	CADW60000000040	1/2 - 1 Mile NW
9	CADW60000020932	1/2 - 1 Mile ESE
10	CADW60000013055	1/2 - 1 Mile SSW

PHYSICAL SETTING SOURCE MAP - 5147412.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Biale Vineyards	CLIENT:	CKG Environmental
ADDRESS:	1583 & 1657 El Centro Avenue Napa CA 94558	CONTACT:	Chris Kennedy
		INQUIRY #:	5147412.2s
LAT/LONG:	38.335022 / 122.31467	DATE:	December 29, 2017 1:23 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
East **FED USGS** **USGS40000187881**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-382010122182501		
Monloc name:	006N004W28K001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18050002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	38.3360244
Longitude:	-122.3080305	Sourcemap scale:	024000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	62
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	90
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 24

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1977-10-04	39.00		1976-11-17	36.2	
1976-08-05	40.9		1976-04-29	28.1	
1976-02-05	27		1975-10-28	29	
1975-07-19	27.1		1975-04-17	23.1	
1974-10-10	31.1		1974-07-29	9.1	
1974-03-18	10.6		1973-05-17	33.7	
1972-10-17	11.6		1972-03-27	8.7	
1971-03-19	8.1		1970-03-27	4.1	
1969-04-03	6		1968-03-18	5.7	
1967-04-27	4.5		1966-04-14	14.5	
1965-03-23	11.3		1964-04-03	10.5	
1963-04-08	7.3		1962-04-19	41.6	

2
ENE **CA WELLS** **CADW60000013053**
1/4 - 1/2 Mile
Lower

Objectid:	13053
Latitude:	38.337
Longitude:	-122.3064
Site code:	383370N1223064W001
State well numbe:	06N04W28K001M
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	28
County name:	Napa

Basin code: '2-2.01'
Basin desc: Napa Valley
Dwr region id: 80236
Dwr region: North Central Region Office
Site id: CADW60000013053

3
NNE **CA WELLS** **CADW60000000038**
1/2 - 1 Mile
Higher

Objectid: 38
Latitude: 38.3446
Longitude: -122.3106
Site code: 383446N1223106W001
State well numbe: 06N04W21P002M
Local well name: ''
Well use id: 4
Well use descrip: Residential
County id: 28
County name: Napa
Basin code: '2-2.01'
Basin desc: Napa Valley
Dwr region id: 80236
Dwr region: North Central Region Office
Site id: CADW60000000038

4
SSE **CA WELLS** **CADW60000014383**
1/2 - 1 Mile
Higher

Objectid: 14383
Latitude: 38.3248
Longitude: -122.3119
Site code: 383248N1223119W001
State well numbe: 06N04W33F001M
Local well name: ''
Well use id: 6
Well use descrip: Unknown
County id: 28
County name: Napa
Basin code: '2-2.01'
Basin desc: Napa Valley
Dwr region id: 80236
Dwr region: North Central Region Office
Site id: CADW60000014383

5
ESE **FED USGS** **USGS40000187852**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-381953122175401		
Monloc name:	006N004W27N001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18050002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	38.3313024
Longitude:	-122.299419	Sourcemap scale:	024000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	50
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	120
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 41

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2002-10-07	42.8		2002-04-09	20.5	
2001-10-12	41.7		2001-04-10	23.3	
2000-10-05	39.5		1983-04-11	9.7	
1982-10-21	33.5		1982-03-24	12.0	
1981-10-15	35.3		1981-04-13	15.4	
1980-09-16	38.5		1980-03-27	11.7	
1979-04-09	14.5		1978-10-13	38.5	
1977-10-04	49.6		1977-06-22	43	
1977-04-19	36.5		1976-11-19	40.9	
1976-07-29	48.7		1976-04-29	30	
1976-02-03	28.2		1975-10-28	37.1	
1975-07-11	42.5		1975-04-17	32.5	
1974-10-18	36		1974-07-29	37.5	
1974-03-18	32.5		1973-10-17	44	
1973-05-24	26.8		1972-10-17	22.5	
1971-03-18	14.5		1970-03-27	22.5	
1970-03-24	16.6		1969-04-03	15.8	
1968-03-18	21.9		1967-05-04	13.1	
1966-04-14	23.8		1965-03-23	22.6	
1964-04-03	20.2		1963-04-08	14.9	
1962-07-20	65.5				

A6
NW
1/2 - 1 Mile
Higher

CA WELLS **CADW60000000040**

Objectid:	40
Latitude:	38.344
Longitude:	-122.3259
Site code:	383440N1223259W001
State well numbe:	06N04W29B001M
Local well name:	''
Well use id:	4
Well use descrip:	Residential
County id:	28
County name:	Napa
Basin code:	'2-2.01'
Basin desc:	Napa Valley
Dwr region id:	80236
Dwr region:	North Central Region Office
Site id:	CADW60000000040

A7
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000187916**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-382039122192901		
Monloc name:	006N004W29B001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18050002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	38.3440798
Longitude:	-122.325809	Sourcemap scale:	024000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	92
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	112
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 24

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1976-10-28	16.5		1976-07-30	16	
1976-04-29	14.3		1976-02-03	13.5	
1975-10-28	13		1975-07-11	12.3	
1975-04-17	6.3		1974-10-10	13.8	
1974-07-20	5.8		1974-03-18	23.8	
1973-10-17	13		1973-05-24	7.9	
1972-10-17	8.8		1972-03-27	7.8	
1971-03-19	7.3		1970-03-25	7.5	
1969-04-03	4.2		1968-03-20	4.4	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1967-05-04	4		1966-04-14	6.1	
1965-03-23	6.1		1964-04-06	7	
1963-04-05	4.2		1962-07-20	27.4	

8
SSW **FED USGS** **USGS40000187805**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-381924122191101		
Monloc name:	006N004W32J006M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18050002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	38.3232471
Longitude:	-122.3208086	Sourcemap scale:	024000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	94
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	100
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 28

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1977-10-03	18.9		1977-06-21	18	
1977-04-18	26.6		1977-01-24	29	
1976-11-17	35		1976-07-30	42.8	
1976-04-28	15.5		1976-02-02	15.8	
1975-11-03	19.5		1975-07-09	35	
1975-04-15	8		1974-10-10	21	
1974-07-29	9		1974-03-20	8.2	
1973-10-10	22.7		1973-05-22	10.1	
1972-10-17	14		1972-03-27	12	
1971-03-19	5		1970-03-25	6	
1969-04-03	6.5		1968-03-20	14.4	
1967-05-03	7.3		1966-04-05	8.9	
1965-03-23	10.5		1964-04-03	13.2	
1963-04-05	8.6		1962-07-16	37.4	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
9 **ESE** **1/2 - 1 Mile** **Lower**	**CA WELLS**	**CADW60000020932**

Objectid:	20932
Latitude:	38.332098
Longitude:	-122.297962
Site code:	383316N1222987W001
State well numbe:	06N04W27N001M
Local well name:	’136’
Well use id:	4
Well use descrip:	Residential
County id:	28
County name:	Napa
Basin code:	’2-2.01’
Basin desc:	Napa Valley
Dwr region id:	80236
Dwr region:	North Central Region Office
Site id:	CADW60000020932

	Database	EDR ID Number
10 **SSW** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADW60000013055**

Objectid:	13055
Latitude:	38.322
Longitude:	-122.32
Site code:	383220N1223200W001
State well numbe:	06N04W32J006M
Local well name:	’’
Well use id:	4
Well use descrip:	Residential
County id:	28
County name:	Napa
Basin code:	’2-2.01’
Basin desc:	Napa Valley
Dwr region id:	80236
Dwr region:	North Central Region Office
Site id:	CADW60000013055

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
94558	82	9

Federal EPA Radon Zone for NAPA County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 94558

Number of sites tested: 17

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.324 pCi/L	88%	12%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558

Inquiry Number: 5147412.7
January 09, 2018

EDR Environmental Lien and AUL Search

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

1583 & 1657 El Centro Avenue
Biale Vineyards
Napa, CA 94558

RESEARCH SOURCE

Source 1:

Napa county recorder
Napa, CA

PROPERTY INFORMATION

Deed 1:

Type of Deed:	Deed
Title is vested in:	Sandra B Rossomando, Robert A. Biale & Mark J. Bai
Title received from:	Clementina Baile
Deed Dated	4/13/2017
Deed Recorded:	4/27/2017
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	see exhibit
Miscellaneous Comments:	na
Legal Description:	see exhibit
Legal Current Owner:	Sandra B Rossomando, Robert A. Biale & Mark J. Baile
Parcel # / Property Identifier:	038361009000
Comments:	see exhibit

Deed 2:

Type of Deed:	Deed
Title is vested in:	Sandra B Rossomando, Robert A. Biale & Mark J. Bai
Title received from:	Clementina Baile
Deed Dated	4/13/2017
Deed Recorded:	4/27/2017
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	

EDR Environmental Lien and AUL Search

see exhibit

Miscellaneous Comments: na

Legal Description: see exhibit

Legal Current Owner: Sandra B Rossomando, Robert A. Biale & Mark J. Baile

Parcel # / Property Identifier: 038361010000

Comments: see exhibit

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

Deed Exhibit 1

2017-0009755

Recorded
Official Records
County of
Napa
JOHN TUTEUR
Assessor-Recorder-Cou

10:33AM 27-Apr-2017

REC FEE 28.00

CA
Page 1 of 5

RECORDING REQUESTED BY
AND WHEN RECORDED RETURN TO:

JAMES W. TERRY
DICKENSON PEATMAN FOGARTY
1455 FIRST STREET, SUITE 301
NAPA, CALIFORNIA 94559

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Address: 1657 El Centro Avenue, Napa

APN: 038-361-009

AFFIDAVIT – DEATH OF TRUSTEE

SANDRA B. ROSSOMANDO, ROBERT A. BIALE, and MARK J. BIALE, of legal age, being first duly sworn, depose and say:

CLEMENTINA BIALE, the decedent mentioned in the attached certified copy of Certificate of Death, is the same person as CLEMENTINA BIALE, who has been serving as a Trustee of The Aldo Biale Exempt Trust U/T/A dated August 8, 1991, as amended (the "Trust").

The Trust owns an interest in that certain parcel of real property located in Napa County, California, and referred to in Document No. **2011-0008501** recorded on April 11, 2011 in the Recorder's Office, County of Napa, State of California, and described on Exhibit A which is attached to and made a part of this Affidavit.

CLEMENTINA BIALE died on April 5, 2017. Paragraph 9.1.a of the Trust provides that if CLEMENTINA BIALE is unable to serve as Trustee of the Trust described herein, then SANDRA B. ROSSOMANDO, ROBERT A. BIALE, and MARK J. BIALE will serve as the successor co-trustees of the Trust.

The Aldo Biale Exempt Trust U/T/A dated August 8, 1991, as amended, has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

This Affidavit is being signed by the currently acting successor co-trustees of The Aldo Biale Exempt Trust U/T/A dated August 8, 1991, as amended.

Dated: 4-13-17

SANDRA B. ROSSOMANDO AKA Sandra Rossomando

Dated: 4/13/17

ROBERT A. BIALE

Dated: 4/13/17

MARK J. BIALE

Successor Co-Trustees of
The Aldo Biale Exempt Trust U/T/A
Dated August 8, 1991, as amended

A Notary Public or other official completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) ss.
COUNTY OF NAPA)

Subscribed and sworn (or affirmed) before me on this 13 day of April, 2017, by SANDRA ROSSOMANDO, proved to me on the basis of satisfactory evidence to be the person who appeared before me.

Notary's Signature

DANA SELENE STAUB-HENSLER
Commission # 2083783
Notary Public - California
Napa County
My Comm. Expires Sep 28, 2018

A Notary Public or other official completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) ss.
COUNTY OF NAPA)

Subscribed and sworn (or affirmed) before me on this 13 day of April, 2017, by ROBERT A. BIALE, proved to me on the basis of satisfactory evidence to be the person who appeared before me.

DANA SELENE STAUB-HENSLER
Commission # 2083783
Notary Public - California
Napa County
My Comm. Expires Sep 28, 2018

Notary's Signature

A Notary Public or other official completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) ss.
COUNTY OF NAPA)

Subscribed and sworn (or affirmed) before me on this 13 day of April, 2017, by MARK J. BIALE, proved to me on the basis of satisfactory evidence to be the person who appeared before me.

Notary's Signature

DANA SELENE STAUB-HENSLER
Commission # 2083783
Notary Public - California
Napa County
My Comm. Expires Sep 28, 2018

State: California
County: Napa
Doc Type: Document - Year.DocID
Description: 2017.9755
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END OF DOCUMENT

EXHIBIT A

Lot 5, of Knights Subdivision according to the Map thereof recorded March 11, 1908, in Book 2 of Maps at page 8, in the office of the County Recorder of said County.

EXCEPTING THEREFROM

(a) All that real property described in the Deed to Ernest G. Thomas, and wife, recorded September 27, 1957, in Book 553 of Official Records at Page 76.

(b) All that real property described in the Deed to Napa County Flood Control and Water Conservation District recorded May 1, 1957, in Book 542 of Official Records at page 66.

APN: 038-361-009

Deed Exhibit 2

2017-0009757

Recorded
Official Records
County of
Napa
JOHN TUTEUR
Assessor-Recorder-Cou

10:33AM 27-Apr-2017

REC FEE 31.00

CA
Page 1 of 6

RECORDING REQUESTED BY
AND WHEN RECORDED RETURN TO:

JAMES W. TERRY
DICKENSON PEATMAN FOGARTY
1455 FIRST STREET, SUITE 301
NAPA, CALIFORNIA 94559

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Address: 1583 El Centro Avenue, Napa

APN: 038-361-010 and 038-361-040

AFFIDAVIT – DEATH OF TRUSTEE

SANDRA B. ROSSOMANDO, ROBERT A. BIALE, and MARK J. BIALE, of legal age, being first duly sworn, depose and say:

CLEMENTINA BIALE, the decedent mentioned in the attached certified copy of Certificate of Death, is the same person as CLEMENTINA BIALE, who has been serving as a Trustee of The Aldo Biale Exempt Trust U/T/A dated August 8, 1991, as amended (the "Trust").

The Trust owns an interest in that certain parcel of real property located in Napa County, California, and referred to in Document No. **2011-0008503** recorded on April 11, 2011 in the Recorder's Office, County of Napa, State of California, and described on Exhibit A which is attached to and made a part of this Affidavit.

CLEMENTINA BIALE died on April 5, 2017. Paragraph 9.1.a of the Trust provides that if CLEMENTINA BIALE is unable to serve as Trustee of the Trust described herein, then SANDRA B. ROSSOMANDO, ROBERT A. BIALE, and MARK J. BIALE will serve as the successor co-trustees of the Trust.

The Aldo Biale Exempt Trust U/T/A dated August 8, 1991, as amended, has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

This Affidavit is being signed by the currently acting successor co-trustees of The Aldo Biale Exempt Trust U/T/A dated August 8, 1991, as amended.

Dated: 4-13-17

SANDRA B. ROSSOMANDO AKA Sandra Rossomando

Dated: 4/13/17

ROBERT A. BIALE

Dated: 4/13/17

MARK J. BIALE

Successor Co-Trustees of
The Aldo Biale Exempt Trust U/T/A
Dated August 8, 1991, as amended

A Notary Public or other official completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) ss.
COUNTY OF NAPA)

Subscribed and sworn (or affirmed) before me on this 13 day of April, 2017, by SANDRA ROSSOMANDO, proved to me on the basis of satisfactory evidence to be the person who appeared before me.

Notary's Signature

DANA SELENE STAUB-HENSLER
Commission # 2083783
Notary Public - California
Napa County
My Comm. Expires Sep 28, 2018

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STATE OF CALIFORNIA)
) ss.
COUNTY OF NAPA)

Subscribed and sworn (or affirmed) before me on this 13 day of April, 2017, by ROBERT A. BIALE, proved to me on the basis of satisfactory evidence to be the person who appeared before me.

Notary's Signature

DANA SELENE STAUB-HENSLER
Commission # 2083783
Notary Public - California
Napa County
My Comm. Expires Sep 28, 2018

A Notary Public or other official completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) ss.
COUNTY OF NAPA)

Subscribed and sworn (or affirmed) before me on this 13 day of April, 2017, by MARK J. BIALE, proved to me on the basis of satisfactory evidence to be the person who appeared before me.

Notary's Signature

DANA SELENE STAUB-HENSLER
Commission # 2083783
Notary Public - California
Napa County
My Comm. Expires Sep 28, 2018

State: California
County: Napa
Doc Type: Document - Year.DocID
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EXHIBIT A

Being all that certain real property situate in a portion of Napa Rancho in the County of Napa, State of California, described as follows:

All of that parcel of land described in the Gift Deed to Mark Biale recorded January 31, 2008 at Document number 2008-0002573 Official Records of Napa County and a portion of Lot 6 as shown on the map entitled "Final Map of Valencia Gardens" filed November 17, 1971 in Book 10 of Maps, page 3 in the Office of the County Recorder of Napa County said real property being more particularly described as follows:

BEGINNING at the northwest corner of said Lot 6; thence along the general northern line of said Lot 6 N88°42'00"E, 40.88 feet; thence continuing along last said line along a tangent curve to the left having a radius of 560.00 feet through a central angle of 2°50'14" an arc length of 27.73 feet to the southwestern line of above referenced parcel recorded at Document number 2008-0002573; thence along said southwestern line N32°02'10"W, 674.17 feet to the northwest corner of said parcel said point being on the southwestern line of El Centro Ave; thence along the northwestern line of said parcel N72°42'00"E, 230.82 feet to the northeast corner of said parcel; thence along the northeastern line of said parcel S32°02"55"E, 881.73 feet to the southeast corner of said parcel; thence along the southeastern line of said parcel S77°54'00"W, 237.66 feet to the southwest corner of said parcel; thence along the southwestern line of said parcel and the northeastern line of said Lot 6 N32° 02'10"W, 146.94 feet; thence leaving last said line S87°11'46"W, 52.70 feet; thence S87°49'16"W, 33.94 feet to the western line of said Lot 6; thence along last said line N03°55'00"W, 34.17 feet to the **Point of Beginning**

Contains 4.523 acre, more or less.

Bearings used in the above description are based on the Final Map entitled "Country Estates" filed November 18, 1994 in Book 20 of Maps, pages 7 through 10 in the Office of the County Recorder of Napa County.

The consolidation of underlying lots, parcels or portions thereof, as set forth in the above metes and bounds description constitutes an expressed written statement of the Grantor, merging said underlying lots, parcels or portions thereof pursuant to Section 1093 of the California Civil Code

END OF DOCUMENT

EXHIBIT A

That certain real property situate in a portion of Napa Rancho in the County of Napa, State of California, described as follows:

A portion of Lot 6 as shown on the map entitled "Final Map of Valencia Gardens" filed November 17, 1971 in Book 10 of Maps, page 3 in the Office of the County Recorder of Napa County said portion being more particularly described as follows:

BEGINNING at the southwest corner of said Lot 6; thence along the general western line of said Lot 6 along a curve to the right, from a radial line that bears S81°07'00"W, having a radius of 200.00 feet through a central angle of 4°58'00" an arc length of 17.34 feet; thence continuing along last said line N03°55'00W, 61.43 feet; thence leaving last said line N87°49'16"E, 33.94 feet; thence N87°11'46"E, 52.70 feet to the northeastern line of said Lot 6; thence along last said line S32°02'10"E, 67.75 feet to the southeast corner of said lot 6; thence along the southern line of said Lot 6 S77°54'00"W, 119.00 feet to the **Point of Beginning**

Contains 7,215 square foot, more or less.

Bearings used in the above description are based on the Final Map entitled "Country Estates" filed November 18, 1994 in Book 20 of Maps, pages 7 through 10 in the Office of the County Recorder of Napa County.

The consolidation of underlying lots, parcels or portions thereof, as set forth in the above metes and bounds description constitutes an expressed written statement of the Grantor, merging said underlying lots, parcels or portions thereof pursuant to Section 1093 of the California Civil Code

Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558

Inquiry Number: 5147412.2s
January 5, 2018

EDR Vapor Encroachment Screen

Prepared using EDR's Vapor Encroachment Worksheet

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	**ES1**
Primary Map	**2**
Secondary Map	**3**
Map Findings	**4**
Record Sources and Currency	**GR-1**

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by EDR. The report was designed to assist parties seeking to meet the search requirements of the ASTM Standard Practice for Assessment of Vapor Encroachment into Structures on Property Involved in Real Estate Transactions (E 2600).

STANDARD ENVIRONMENTAL RECORDS	Default Area of Concern (Miles)*	property	1/10	> 1/10
Federal NPL site list	1.0	0	0	0
Federal Delisted NPL site list	1.0	0	0	0
Federal CERCLIS list	0.5	0	0	0
Federal CERCLIS NFRAP site list	0.5	0	0	0
Federal RCRA CORRACTS facilities list	1.0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list	0.5	0	0	0
Federal RCRA generators list	0.25	0	0	0
Federal institutional controls / engineering controls registries	0.5	0	0	0
Federal ERNS list	0.001	0	0	-
State- and tribal - equivalent NPL	1.0	0	0	0
State- and tribal - equivalent CERCLIS	1.0	0	0	0
State and tribal landfill and/or solid waste disposal site lists	0.5	0	0	0
State and tribal leaking storage tank lists	0.5	0	0	2
State and tribal registered storage tank lists	0.25	0	0	0
State and tribal institutional control / engineering control registries	not searched	-	-	-
State and tribal voluntary cleanup sites	0.5	0	0	0
State and tribal Brownfields sites	0.5	0	0	0

ADDITIONAL ENVIRONMENTAL RECORDS				
Local Brownfield lists	0.5	0	0	0
Local Lists of Landfill / Solid Waste Disposal Sites	0.5	0	0	0
Local Lists of Hazardous waste / Contaminated Sites	1.0	0	0	0
Local Lists of Registered Storage Tanks	0.25	0	0	0
Local Land Records	0.5	0	0	0
Records of Emergency Release Reports	0.5	0	0	0
Other Ascertainable Records	1.0	1	0	1
EDR Exclusive Records	1.0	0	0	0
Exclusive Recovered Govt. Archives	0.001	0	0	-

*The Default Area of Concern may be adjusted by the environmental professional using experience and professional judgement. Each category may include several databases, and each database may have a different distance. A list of individual databases is provided at the back of this report.

EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

BIALE VINEYARDS
1583 & 1657 EL CENTRO AVENUE
NAPA, CA 94558

COORDINATES

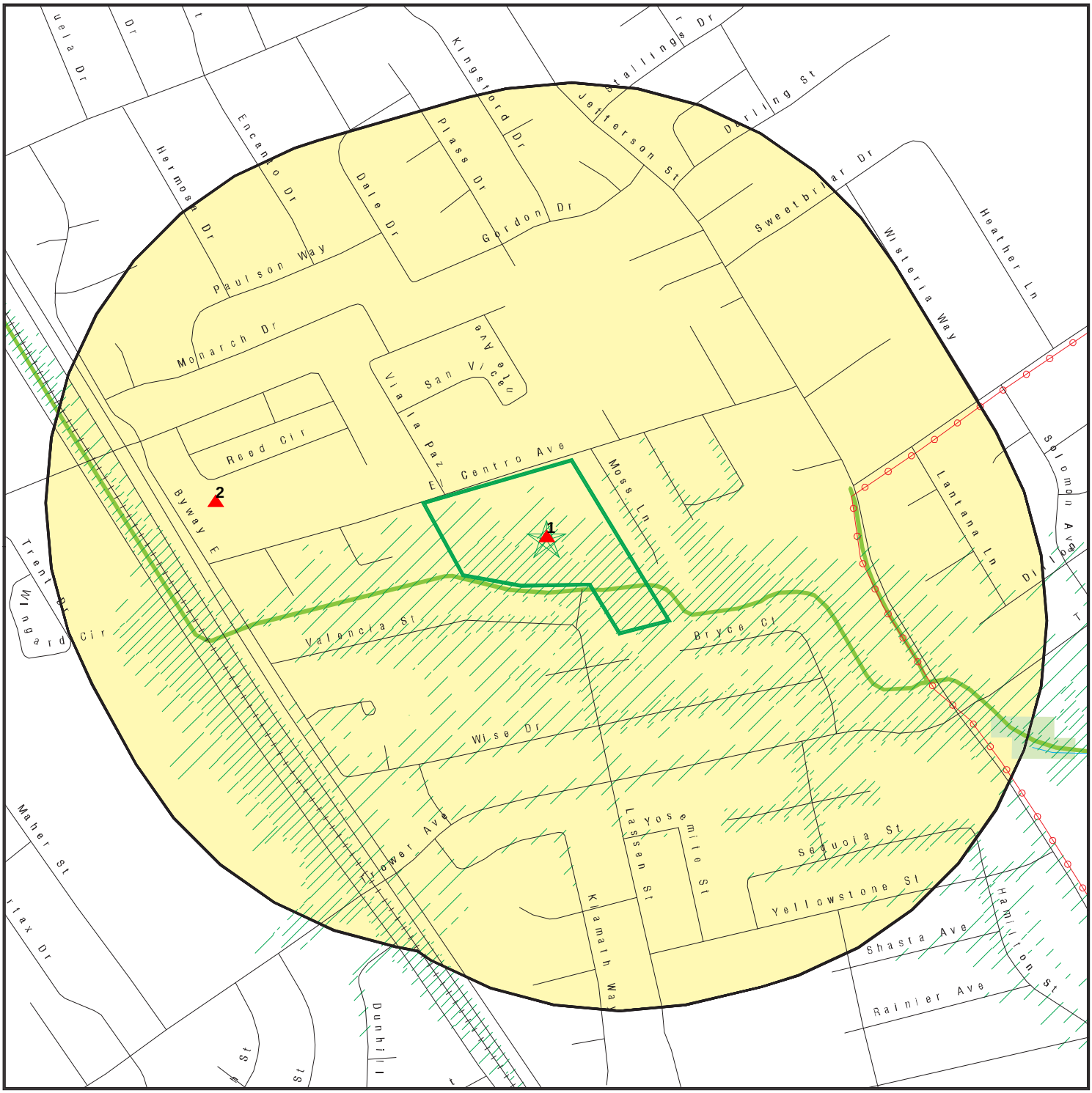
Latitude (North):	38.335022 - 38° 20′ 6.0791016″
Longitude (West):	122.31467 - 122° 18′ 52.800293″
Elevation:	71 ft. above sea level

SEARCH RESULTS

Unmappable (orphan) sites are not considered in the foregoing analysis.

Name	Address	Dist/Dir	Map ID	Page
HOME RANCH FINDS	1657 EL CENTRO AVE	Property	▲ 1	6
SHRADER, JEAN LUST	4122 BYWAY E	1/10 - 1/3 W	▲ 2	6

PRIMARY MAP - 5147412.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Biale Vineyards ADDRESS: 1583 & 1657 El Centro Avenue Napa CA 94558 LAT/LONG: 38.335022 / 122.31467	CLIENT: CKG Environmental CONTACT: Chris Kennedy INQUIRY #: 5147412.2s DATE: December 29, 2017 1:21 pm

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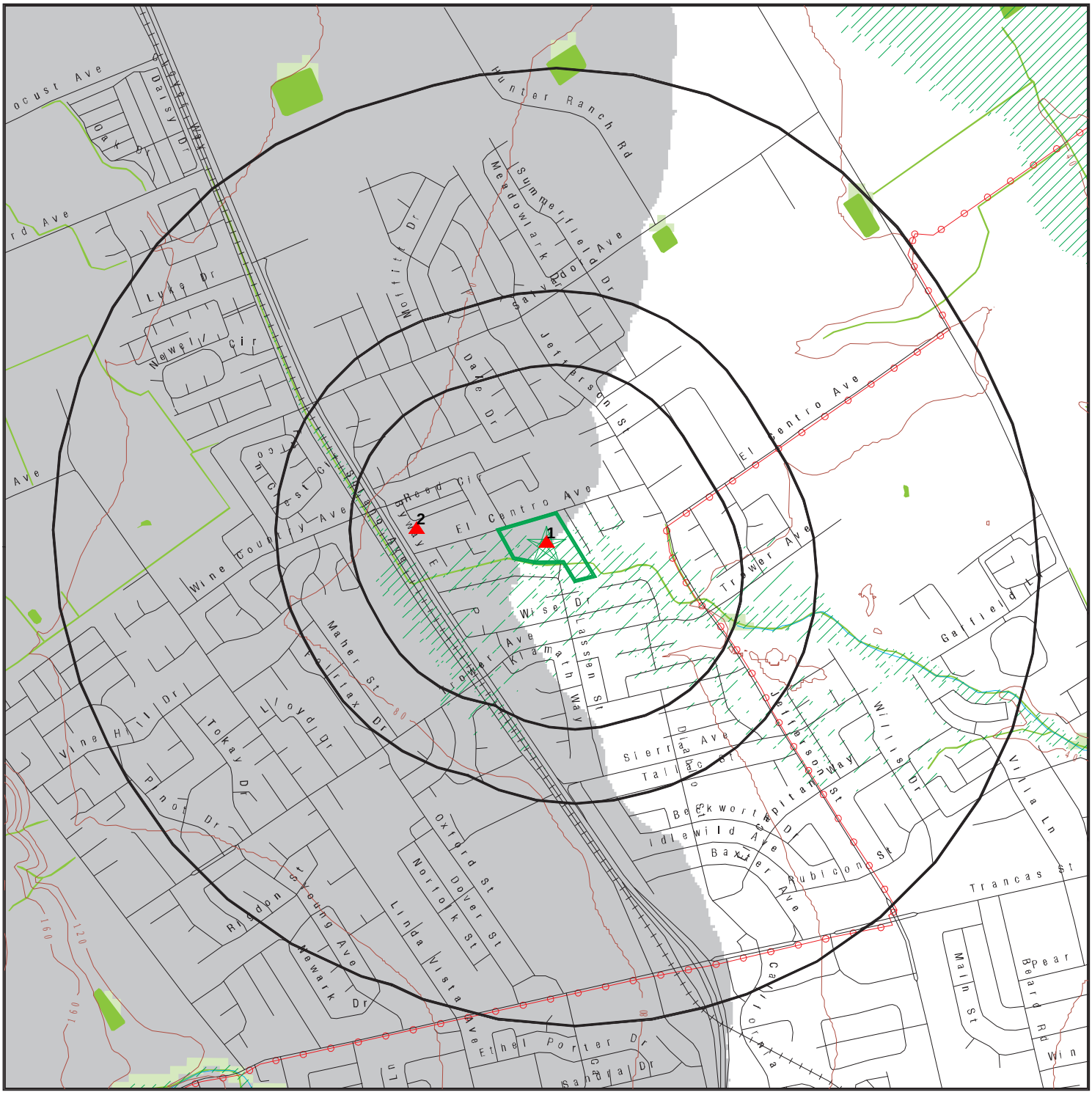
SECONDARY MAP - 5147412.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/3 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Biale Vineyards	CLIENT:	CKG Environmental
ADDRESS:	1583 & 1657 El Centro Avenue Napa CA 94558	CONTACT:	Chris Kennedy
LAT/LONG:	38.335022 / 122.31467	INQUIRY #:	5147412.2s
		DATE:	December 29, 2017 1:20 pm

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MAP FINDINGS

LEGEND

FACILITY NAME **FACILITY ADDRESS, CITY, ST, ZIP**		EDR SITE ID NUMBER
◆ **MAP ID#**	Direction Distance Range (Distance feet / miles) Relative Elevation Feet Above Sea Level	ASTM 2600 Record Sources found in this report. Each database searched has been assigned to one or more categories. For detailed information about categorization, see the section of the report Records Searched and Currency.

Worksheet:

Comments:
Comments may be added on the online Vapor Encroachment Worksheet.

DATABASE ACRONYM: Applicable categories (A hoverbox with database description).

HOME RANCH 1657 EL CENTRO AVE, NAPA, CA, 94558			1016717285
▲ 1	Target Property		Other Ascertainable Records
		71 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist

SHRADER, JEAN 4122 BYWAY E, NAPA, CA, 94558			S119102576
▲ 2	W 1/10 - 1/3	(969 ft. / 0.184 mi.)	State and tribal leaking storage tank lists
	5 ft. Higher Elevation	76 ft. Above Sea Level	

Worksheet:

Impact on Target Property: VEC does not exist
Conditions:

Petroleum Hydrocarbon Chemicals of Concern: YES
Groundwater Flow Gradient:

Upgradient or Indeterminate: YES

Hydrogeologically: YES

Topographically: YES

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
ENVIRONMENTAL RECORDS						
Federal NPL site list						
US	NPL	National Priority List	EPA	10/10/2017	11/03/2017	12/15/2017
US	Proposed NPL	Proposed National Priority List Sites	EPA	10/10/2017	11/03/2017	12/15/2017
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
Federal CERCLIS list						
US	SEMS	Superfund Enterprise Management System	EPA	07/11/2017	07/21/2017	10/06/2017
Federal RCRA CORRACTS facilities list						
US	CORRACTS	Corrective Action Report	EPA	09/13/2017	09/26/2017	10/06/2017
Federal RCRA TSD facilities list						
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	09/13/2017	09/26/2017	10/06/2017
Federal RCRA generators list						
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	09/13/2017	09/26/2017	10/06/2017
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	09/13/2017	09/26/2017	10/06/2017
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	Environmental Protection Agency	09/13/2017	09/26/2017	10/06/2017
Federal institutional controls / engineering controls registries						
US	LUCIS	Land Use Control Information System	Department of the Navy	05/22/2017	06/13/2017	09/15/2017
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	08/10/2017	08/30/2017	10/13/2017
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	08/10/2017	08/30/2017	10/13/2017
Federal ERNS list						
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	09/18/2017	09/21/2017	10/13/2017
State and tribal - equivalent NPL						
CA	RESPONSE	State Response Sites	Department of Toxic Substances Control	10/30/2017	10/31/2017	12/15/2017
State and tribal - equivalent CERCLIS						
CA	ENVIROSTOR	EnviroStor Database	Department of Toxic Substances Control	10/30/2017	10/31/2017	12/15/2017
State and tribal landfill / solid waste disposal						
CA	SWF/LF (SWIS)	Solid Waste Information System	Department of Resources Recycling and Recover	11/13/2017	11/14/2017	12/07/2017
State and tribal leaking storage tank lists						
CA	LUST REG 5	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	07/01/2008	07/22/2008	07/31/2008
CA	LUST	Leaking Underground Fuel Tank Report (GEOTRACKER)	State Water Resources Control Board	09/11/2017	09/12/2017	11/09/2017
CA	LUST REG 9	Leaking Underground Storage Tank Report	California Regional Water Quality Control Boa	03/01/2001	04/23/2001	05/21/2001
CA	LUST REG 8	Leaking Underground Storage Tanks	California Regional Water Quality Control Boa	02/14/2005	02/15/2005	03/28/2005
CA	LUST REG 7	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	02/26/2004	02/26/2004	03/24/2004
CA	LUST REG 6V	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	06/07/2005	06/07/2005	06/29/2005
CA	LUST REG 6L	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	09/09/2003	09/10/2003	10/07/2003

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	LUST REG 4	Underground Storage Tank Leak List	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	LUST REG 3	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	05/19/2003	05/19/2003	06/02/2003
CA	LUST REG 2	Fuel Leak List	California Regional Water Quality Control Boa	09/30/2004	10/20/2004	11/19/2004
CA	LUST REG 1	Active Toxic Site Investigation	California Regional Water Quality Control Boa	02/01/2001	02/28/2001	03/29/2001
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	10/14/2016	01/27/2017	05/05/2017
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	04/24/2017	07/27/2017	10/06/2017
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	04/26/2017	07/27/2017	10/13/2017
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/14/2017	07/27/2017	10/06/2017
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	04/25/2017	11/07/2017	12/08/2017
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	04/13/2017	07/27/2017	10/13/2017
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	05/01/2017	07/27/2017	10/13/2017
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	04/14/2017	07/27/2017	10/06/2017
CA	SLIC	Statewide SLIC Cases (GEOTRACKER)	State Water Resources Control Board	09/11/2017	09/12/2017	11/09/2017
CA	SLIC REG 1	Active Toxic Site Investigations	California Regional Water Quality Control Boa	04/03/2003	04/07/2003	04/25/2003
CA	SLIC REG 2	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board San Fran	09/30/2004	10/20/2004	11/19/2004
CA	SLIC REG 3	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	05/18/2006	05/18/2006	06/15/2006
CA	SLIC REG 4	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Region Water Quality Control Board Los Angele	11/17/2004	11/18/2004	01/04/2005
CA	SLIC REG 5	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board Central	04/01/2005	04/05/2005	04/21/2005
CA	SLIC REG 6V	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board, Victorv	05/24/2005	05/25/2005	06/16/2005
CA	SLIC REG 6L	SLIC Sites	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	SLIC REG 7	SLIC List	California Regional Quality Control Board, Co	11/24/2004	11/29/2004	01/04/2005
CA	SLIC REG 8	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Region Water Quality Control Board	04/03/2008	04/03/2008	04/14/2008
CA	SLIC REG 9	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	09/10/2007	09/11/2007	09/28/2007
State and tribal registered storage tank lists						
CA	UST	Active UST Facilities	SWRCB	09/11/2017	09/12/2017	11/08/2017
CA	UST MENDOCINO	Mendocino County UST Database	Department of Public Health	11/27/2017	11/29/2017	12/18/2017
CA	AST	Aboveground Petroleum Storage Tank Facilities	California Environmental Protection Agency	07/06/2016	07/12/2016	09/19/2016
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	05/02/2017	07/27/2017	10/06/2017
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	05/01/2017	07/27/2017	10/13/2017
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	04/25/2017	07/27/2017	10/13/2017
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/14/2017	07/27/2017	10/06/2017
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	04/13/2017	07/27/2017	10/13/2017
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	04/26/2017	07/27/2017	10/06/2017
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	04/24/2017	07/27/2017	12/08/2017
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	10/14/2016	01/27/2017	05/05/2017
US	FEMA UST	Underground Storage Tank Listing	FEMA	05/15/2017	05/30/2017	10/13/2017
State and tribal voluntary cleanup sites						
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
CA	VCP	Voluntary Cleanup Program Properties	Department of Toxic Substances Control	10/30/2017	10/31/2017	12/15/2017

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
State and tribal Brownfields sites						
CA	BROWNFIELDS	Considered Brownfieds Sites Listing	State Water Resources Control Board	09/21/2017	09/21/2017	11/09/2017
Other Records						
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	06/30/2017	08/03/2017	10/20/2017
US	ROD	Records Of Decision	EPA	09/27/2017	10/12/2017	10/20/2017
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	07/11/2017	07/26/2017	10/13/2017
CA	HIST CAL-SITES	Calsites Database	Department of Toxic Substance Control	08/08/2005	08/03/2006	08/24/2006
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
CA	SWRCY	Recycler Database	Department of Conservation	09/11/2017	09/12/2017	09/21/2017
CA	CA FID UST	Facility Inventory Database	California Environmental Protection Agency	10/31/1994	09/05/1995	09/29/1995
CA	HIST UST	Hazardous Substance Storage Container Database	State Water Resources Control Board	10/15/1990	01/25/1991	02/12/1991
CA	SWEEPS UST	SWEEPS UST Listing	State Water Resources Control Board	06/01/1994	07/07/2005	08/11/2005
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	12/23/2016	12/27/2016	02/17/2017
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	05/24/2017	11/30/2017	12/15/2017
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	04/22/2013	03/03/2015	03/09/2015
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	10/10/2017	11/03/2017	12/15/2017
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	10/17/2017	11/01/2017	12/08/2017
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	10/12/2016	10/26/2016	02/03/2017
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	07/01/2014	09/10/2014	10/20/2014
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	07/13/2017	09/06/2017	10/06/2017
US	Delisted NPL	National Priority List Deletions	EPA	10/10/2017	11/03/2017	12/15/2017
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	07/11/2017	07/28/2017	10/06/2017
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	09/13/2017	09/26/2017	10/06/2017
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	09/21/2017	09/21/2017	10/13/2017
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	07/31/2012	08/07/2012	09/18/2012
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	07/13/2017	09/06/2017	10/06/2017
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	08/21/2017	09/20/2017	12/08/2017
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	12/31/2005	02/06/2006	01/11/2007
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	01/31/2015	07/08/2015	10/13/2015
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	06/23/2017	10/11/2017	11/03/2017
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	07/31/2017	08/30/2017	10/13/2017
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	12/05/2005	02/29/2008	04/18/2008
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	PRP	Potentially Responsible Parties	EPA	10/25/2013	10/17/2014	10/20/2014
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2014	11/24/2015	04/05/2016
US	TSCA	Toxic Substances Control Act	EPA	12/31/2012	01/15/2015	01/29/2015
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	SSTS	Section 7 Tracking Systems	EPA	12/31/2009	12/10/2010	02/25/2011
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	PADS	PCB Activity Database System	EPA	06/01/2017	06/09/2017	10/13/2017
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	08/30/2016	09/08/2016	10/21/2016
US	RADINFO	Radiation Information Database	Environmental Protection Agency	10/02/2017	10/05/2017	10/13/2017
US	FINDS	Facility Index System/Facility Registry System	EPA	07/23/2017	09/06/2017	09/15/2017
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RMP	Risk Management Plans	Environmental Protection Agency	11/02/2017	11/17/2017	12/08/2017
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2015	02/22/2017	09/28/2017
US	PWS	Public Water System Data	EPA	12/17/2013	01/09/2014	10/15/2014
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
CA	CA BOND EXP. PLAN	Bond Expenditure Plan	Department of Health Services	01/01/1989	07/27/1994	08/02/1994
CA	CDL	Clandestine Drug Labs	Department of Toxic Substances Control	06/30/2017	08/18/2017	09/21/2017
CA	CHMIRS	California Hazardous Material Incident Report System	Office of Emergency Services	05/09/2017	07/26/2017	09/21/2017
CA	CORTESE	"Cortese" Hazardous Waste & Substances Sites List	CAL EPA/Office of Emergency Information	09/21/2017	09/21/2017	10/13/2017
CA	DEED	Deed Restriction Listing	DTSC and SWRCB	09/05/2017	09/06/2017	11/08/2017
CA	DRYCLEANERS	Cleaner Facilities	Department of Toxic Substance Control	08/02/2017	08/08/2017	10/16/2017
CA	EMI	Emissions Inventory Data	California Air Resources Board	12/31/2015	03/21/2017	08/15/2017
CA	ENF	Enforcement Action Listing	State Water Resoruces Control Board	11/01/2017	11/03/2017	12/07/2017
CA	Financial Assurance 1	Financial Assurance Information Listing	Department of Toxic Substances Control	10/23/2017	10/24/2017	12/15/2017
CA	Financial Assurance 2	Financial Assurance Information Listing	California Integrated Waste Management Board	11/14/2017	11/17/2017	12/18/2017
CA	HAULERS	Registered Waste Tire Haulers Listing	Integrated Waste Management Board	05/30/2017	05/31/2017	08/15/2017
CA	HAZNET	Facility and Manifest Data	California Environmental Protection Agency	12/31/2016	07/12/2017	10/17/2017
CA	HIST CORTESE	Hazardous Waste & Substance Site List	Department of Toxic Substances Control	04/01/2001	01/22/2009	04/08/2009
CA	HWP	EnviroStor Permitted Facilities Listing	Department of Toxic Substances Control	11/20/2017	11/20/2017	12/27/2017
CA	HWT	Registered Hazardous Waste Transporter Database	Department of Toxic Substances Control	10/10/2017	10/10/2017	10/17/2017
CA	ICE	ICE	Department of Toxic Subsances Control	11/20/2017	11/20/2017	12/27/2017
CA	LDS	Land Disposal Sites Listing (GEOTRACKER)	State Water Qualilty Control Board	09/11/2017	09/12/2017	11/09/2017
CA	LIENS	Environmental Liens Listing	Department of Toxic Substances Control	08/31/2017	09/05/2017	11/08/2017
CA	MCS	Military Cleanup Sites Listing (GEOTRACKER)	State Water Resources Control Board	09/11/2017	09/12/2017	11/09/2017
CA	MINES	Mines Site Location Listing	Department of Conservation	09/11/2017	09/12/2017	11/01/2017
CA	MWMP	Medical Waste Management Program Listing	Department of Public Health	09/01/2017	09/06/2017	11/08/2017
CA	NPDES	NPDES Permits Listing	State Water Resources Control Board	11/13/2017	11/14/2017	12/07/2017
CA	PEST LIC	Pesticide Regulation Licenses Listing	Department of Pesticide Regulation	09/05/2017	09/06/2017	11/08/2017
CA	PROC	Certified Processors Database	Department of Conservation	09/11/2017	09/12/2017	10/18/2017
CA	NOTIFY 65	Proposition 65 Records	State Water Resources Control Board	06/16/2017	06/20/2017	10/17/2017
CA	SCH	School Property Evaluation Program	Department of Toxic Substances Control	10/30/2017	10/31/2017	12/15/2017
CA	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	06/06/2012	01/03/2013	02/22/2013
CA	TOXIC PITS	Toxic Pits Cleanup Act Sites	State Water Resources Control Board	07/01/1995	08/30/1995	09/26/1995
CA	UIC	UIC Listing	Deaprtment of Conservation	09/11/2017	09/12/2017	12/15/2017
CA	WASTEWATER PITS	Oil Wastewater Pits Listing	RWQCB, Central Valley Region	04/15/2015	04/17/2015	06/23/2015
CA	WDS	Waste Discharge System	State Water Resources Control Board	06/19/2007	06/20/2007	06/29/2007
CA	WIP	Well Investigation Program Case List	Los Angeles Water Quality Control Board	07/03/2009	07/21/2009	08/03/2009
CA	WMUDS/SWAT	Waste Management Unit Database	State Water Resources Control Board	04/01/2000	04/10/2000	05/10/2000

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	08/17/2017	08/17/2017	09/15/2017
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	09/02/2017	09/06/2017	10/20/2017
US	ABANDONED MINES	Abandoned Mines	Department of Interior	09/25/2017	09/26/2017	10/20/2017
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	02/13/2017	02/15/2017	11/03/2017
US	UXO	Unexploded Ordnance Sites	Department of Defense	10/25/2016	06/02/2017	10/13/2017
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
HISTORICAL USE RECORDS						
US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EDR Hist Auto	EDR Exclusive Historical Auto Stations	EDR, Inc.			
US	EDR Hist Cleaner	EDR Exclusive Historical Cleaners	EDR, Inc.			
CA	RGA LF	Recovered Government Archive Solid Waste Facilities List	Department of Resources Recycling and Recover		07/01/2013	01/13/2014
CA	RGA LUST	Recovered Government Archive Leaking Underground Storage Tan	State Water Resources Control Board		07/01/2013	12/30/2013
COUNTY RECORDS						
CA	CS ALAMEDA	Contaminated Sites	Alameda County Environmental Health Services	09/22/2017	09/22/2017	10/10/2017
CA	UST ALAMEDA	Underground Tanks	Alameda County Environmental Health Services	10/11/2017	10/12/2017	11/08/2017
CA	CUPA AMADOR	CUPA Facility List	Amador County Environmental Health	12/08/2017	12/12/2017	12/27/2017
CA	CUPA BUTTE	CUPA Facility Listing	Public Health Department	04/21/2017	04/25/2017	08/09/2017
CA	CUPA CALVERAS	CUPA Facility Listing	Calveras County Environmental Health	08/31/2017	09/05/2017	11/08/2017
CA	CUPA COLUSA	CUPA Facility List	Health & Human Services	08/07/2017	08/08/2017	10/16/2017
CA	SL CONTRA COSTA	Site List	Contra Costa Health Services Department	08/17/2017	08/22/2017	10/25/2017
CA	CUPA DEL NORTE	CUPA Facility List	Del Norte County Environmental Health Divisio	10/31/2017	11/01/2017	11/14/2017
CA	CUPA EL DORADO	CUPA Facility List	El Dorado County Environmental Management Dep	12/04/2017	12/06/2017	12/27/2017
CA	CUPA FRESNO	CUPA Resources List	Dept. of Community Health	10/03/2017	10/06/2017	11/15/2017
CA	CUPA GLENN	CUPA Facility List	Glenn County Air Pollution Control District	10/25/2017	10/27/2017	11/15/2017
CA	CUPA HUMBOLDT	CUPA Facility List	Humboldt County Environmental Health	08/03/2017	08/08/2017	10/16/2017
CA	CUPA IMPERIAL	CUPA Facility List	San Diego Border Field Office	10/23/2017	10/24/2017	11/15/2017
CA	CUPA INYO	CUPA Facility List	Inyo County Environmental Health Services	06/08/2017	06/09/2017	08/04/2017
CA	UST KERN	Underground Storage Tank Sites & Tank Listing	Kern County Environment Health Services Depar	11/02/2017	11/07/2017	12/20/2017
CA	CUPA KINGS	CUPA Facility List	Kings County Department of Public Health	11/14/2017	11/17/2017	12/15/2017
CA	CUPA LAKE	CUPA Facility List	Lake County Environmental Health	11/09/2017	11/10/2017	11/15/2017
CA	CUPA LASSEN	CUPA Facility List	Lassen County Environmental Health	07/24/2017	07/26/2017	10/16/2017
CA	AOCONCERN	San Gabriel Valley Areas of Concern	EPA Region 9	03/30/2009	03/31/2009	10/23/2009
CA	HMS LOS ANGELES	HMS: Street Number List	Department of Public Works	10/11/2017	10/12/2017	10/17/2017
CA	LF LOS ANGELES	List of Solid Waste Facilities	La County Department of Public Works	10/16/2017	10/17/2017	12/07/2017
CA	LF LOS ANGELES CITY	City of Los Angeles Landfills	Engineering & Construction Division	01/01/2017	04/21/2017	10/09/2017
CA	SITE MIT LOS ANGELES	Site Mitigation List	Community Health Services	11/01/2017	11/14/2017	12/15/2017
CA	UST EL SEGUNDO	City of El Segundo Underground Storage Tank	City of El Segundo Fire Department	01/21/2017	04/19/2017	05/10/2017
CA	UST LONG BEACH	City of Long Beach Underground Storage Tank	City of Long Beach Fire Department	03/09/2017	03/10/2017	05/03/2017
CA	UST TORRANCE	City of Torrance Underground Storage Tank	City of Torrance Fire Department	07/11/2017	07/14/2017	09/21/2017
CA	CUPA MADERA	CUPA Facility List	Madera County Environmental Health	10/26/2017	10/27/2017	11/06/2017
CA	UST MARIN	Underground Storage Tank Sites	Public Works Department Waste Management	09/28/2017	10/05/2017	11/08/2017
CA	CUPA MERCED	CUPA Facility List	Merced County Environmental Health	10/02/2017	10/03/2017	10/17/2017
CA	CUPA MONO	CUPA Facility List	Mono County Health Department	11/21/2017	11/27/2017	12/27/2017
CA	CUPA MONTEREY	CUPA Facility Listing	Monterey County Health Department	09/11/2017	09/15/2017	11/28/2017
CA	LUST NAPA	Sites With Reported Contamination	Napa County Department of Environmental Manag	01/09/2017	01/11/2017	03/02/2017

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	UST NAPA	Closed and Operating Underground Storage Tank Sites	Napa County Department of Environmental Manag	11/22/2017	11/27/2017	12/19/2017
CA	CUPA NEVADA	CUPA Facility List	Community Development Agency	11/02/2017	11/07/2017	11/15/2017
CA	IND_SITE ORANGE	List of Industrial Site Cleanups	Health Care Agency	11/02/2017	11/09/2017	12/07/2017
CA	LUST ORANGE	List of Underground Storage Tank Cleanups	Health Care Agency	11/02/2017	11/09/2017	12/15/2017
CA	UST ORANGE	List of Underground Storage Tank Facilities	Health Care Agency	11/02/2017	11/07/2017	12/19/2017
CA	MS PLACER	Master List of Facilities	Placer County Health and Human Services	09/05/2017	09/06/2017	11/08/2017
CA	CUPA PLUMAS	CUPA Facility List	Plumas County Environmental Health	10/23/2017	11/03/2017	11/15/2017
CA	LUST RIVERSIDE	Listing of Underground Tank Cleanup Sites	Department of Environmental Health	10/11/2017	10/12/2017	11/09/2017
CA	UST RIVERSIDE	Underground Storage Tank Tank List	Department of Environmental Health	10/12/2017	10/12/2017	11/08/2017
CA	CS SACRAMENTO	Toxic Site Clean-Up List	Sacramento County Environmental Management	08/02/2017	10/03/2017	10/06/2017
CA	ML SACRAMENTO	Master Hazardous Materials Facility List	Sacramento County Environmental Management	08/02/2017	10/03/2017	11/16/2017
CA	CUPA SAN BENITO	CUPA Facility List	San Benito County Environmental Health	11/01/2017	11/03/2017	11/17/2017
CA	PERMITS SAN BERNARDINO	Hazardous Material Permits	San Bernardino County Fire Department Hazardo	08/31/2017	09/19/2017	11/16/2017
CA	HMMD SAN DIEGO	Hazardous Materials Management Division Database	Hazardous Materials Management Division	09/05/2017	09/06/2017	11/08/2017
CA	LF SAN DIEGO	Solid Waste Facilities	Department of Health Services	10/31/2015	11/07/2015	01/04/2016
CA	SAN DIEGO CO. SAM	Environmental Case Listing	San Diego County Department of Environmental	03/23/2010	06/15/2010	07/09/2010
CA	LUST SAN FRANCISCO	Local Oversite Facilities	Department Of Public Health San Francisco Cou	09/19/2008	09/19/2008	09/29/2008
CA	UST SAN FRANCISCO	Underground Storage Tank Information	Department of Public Health	11/02/2017	11/07/2017	12/19/2017
CA	UST SAN JOAQUIN	San Joaquin Co. UST	Environmental Health Department	10/03/2017	10/06/2017	10/10/2017
CA	CUPA SAN LUIS OBISPO	CUPA Facility List	San Luis Obispo County Public Health Departme	11/16/2017	11/17/2017	12/18/2017
CA	BI SAN MATEO	Business Inventory	San Mateo County Environmental Health Service	09/15/2017	09/19/2017	10/17/2017
CA	LUST SAN MATEO	Fuel Leak List	San Mateo County Environmental Health Service	09/15/2017	09/19/2017	11/09/2017
CA	CUPA SANTA BARBARA	CUPA Facility Listing	Santa Barbara County Public Health Department	09/08/2011	09/09/2011	10/07/2011
CA	CUPA SANTA CLARA	Cupa Facility List	Department of Environmental Health	08/07/2017	08/10/2017	10/16/2017
CA	HIST LUST SANTA CLARA	HIST LUST - Fuel Leak Site Activity Report	Santa Clara Valley Water District	03/29/2005	03/30/2005	04/21/2005
CA	LUST SANTA CLARA	LOP Listing	Department of Environmental Health	03/03/2014	03/05/2014	03/18/2014
CA	SAN JOSE HAZMAT	Hazardous Material Facilities	City of San Jose Fire Department	11/01/2017	11/03/2017	12/07/2017
CA	CUPA SANTA CRUZ	CUPA Facility List	Santa Cruz County Environmental Health	01/21/2017	02/22/2017	05/23/2017
CA	CUPA SHASTA	CUPA Facility List	Shasta County Department of Resource Manageme	06/15/2017	06/19/2017	08/09/2017
CA	LUST SOLANO	Leaking Underground Storage Tanks	Solano County Department of Environmental Man	09/26/2017	09/27/2017	11/10/2017
CA	UST SOLANO	Underground Storage Tanks	Solano County Department of Environmental Man	09/26/2017	09/27/2017	11/08/2017
CA	CUPA SONOMA	Cupa Facility List	County of Sonoma Fire & Emergency Services De	09/25/2017	09/27/2017	11/16/2017
CA	LUST SONOMA	Leaking Underground Storage Tank Sites	Department of Health Services	10/03/2017	10/06/2017	11/10/2017
CA	CUPA STANISLAUS	CUPA Facility List	Stanislaus County Department of Ennvironmenta	11/01/2017	11/10/2017	11/16/2017
CA	UST SUTTER	Underground Storage Tanks	Sutter County Department of Agriculture	12/01/2017	12/04/2017	12/19/2017
CA	CUPA TEHAMA	CUPA Facility List	Tehama County Department of Environmental Hea	11/16/2017	11/17/2017	12/18/2017
CA	CUPA TRINITY	CUPA Facility List	Department of Toxic Substances Control	10/23/2017	10/24/2017	11/16/2017
CA	CUPA TULARE	CUPA Facility List	Tulare County Environmental Health Services D	09/27/2017	09/28/2017	10/16/2017
CA	CUPA TUOLUMNE	CUPA Facility List	Divison of Environmental Health	10/24/2017	10/25/2017	11/16/2017
CA	BWT VENTURA	Business Plan, Hazardous Waste Producers, and Operating Unde	Ventura County Environmental Health Division	09/26/2017	10/25/2017	12/07/2017
CA	LF VENTURA	Inventory of Illegal Abandoned and Inactive Sites	Environmental Health Division	12/01/2011	12/01/2011	01/19/2012
CA	LUST VENTURA	Listing of Underground Tank Cleanup Sites	Environmental Health Division	05/29/2008	06/24/2008	07/31/2008
CA	MED WASTE VENTURA	Medical Waste Program List	Ventura County Resource Management Agency	09/26/2017	10/25/2017	12/07/2017
CA	UST VENTURA	Underground Tank Closed Sites List	Environmental Health Division	08/28/2017	09/12/2017	09/21/2017
CA	UST YOLO	Underground Storage Tank Comprehensive Facility Report	Yolo County Department of Health	09/27/2017	10/02/2017	11/14/2017
CA	CUPA YUBA	CUPA Facility List	Yuba County Environmental Health Department	11/08/2017	11/10/2017	11/16/2017

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date

STREET AND ADDRESS INFORMATION

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Biale Vineyards
1583 and 1657 El Centro Avenue
Napa, CA 94558

Inquiry Number: 5147412.5
December 29, 2017

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1923 through 2014. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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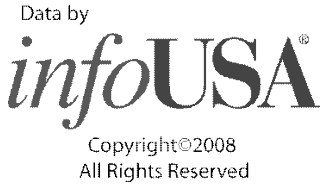

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2014	EDR Digital Archive	-	X	X	-
2010	EDR Digital Archive	-	X	X	-
2005	EDR Digital Archive	-	X	X	-
2003	Haines	-	-	-	-
1996	Polk	-	-	-	-
1994	Pacific Bell	-	X	X	-
1990	Polk	-	-	-	-
1981	R. L. Polk & Co.	-	-	-	-
1975	R. L. Polk & Co.	-	X	X	-
	R. L. Polk & Co.	X	X	X	-
1970	R. L. Polk & Co.	-	-	-	-
1965	R. L. Polk & Co.	-	-	-	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1960	R. L. Polk & Co.	-	-	-	-
1954	R. L. Polk & Co. of California	-	-	-	-
1947	R. L. Polk & Co.	-	-	-	-
1942	R. L. Polk & Co.	-	-	-	-
1935	R. L. Polk & Co.	-	-	-	-
1929	R. L. Polk & Co.	-	-	-	-
1923	Polk-Husted Directory Co.	-	-	-	-

EXECUTIVE SUMMARY

SELECTED ADDRESSES

The following addresses were selected by the client, for EDR to research. An "X" indicates where information was identified.

Address	*Type*	*Findings*
1583 El Centro Avenue	Client Entered	X
1657 El Centro Avenue	Client Entered	

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

1583 and 1657 El Centro Avenue
Napa, CA 94558

FINDINGS DETAIL

Target Property research detail.

EL CENTRO AVE

1583 EL CENTRO AVE

Year	*Uses*	*Source*
1975	Biale Christina Mrs	R. L. Polk & Co.

El Centro Avenue

1583 El Centro Avenue

Year	*Uses*	*Source*
1975	Biale Christina Mrs	R. L. Polk & Co.

1657 El Centro Avenue

Year	*Uses*	*Source*

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

El Centro Ave

1481 El Centro Ave

Year	Uses	Source
2005	NAPA VENTURES	EDR Digital Archive
	NAPA VENTURES	EDR Digital Archive

EL CENTRO AVE

1514 EL CENTRO AVE

Year	Uses	Source
1975	Patrick Charles A	R. L. Polk & Co.

1547 EL CENTRO AVE

Year	Uses	Source
1975	Vienop Geo E	R. L. Polk & Co.

El Centro Ave

1580 El Centro Ave

Year	Uses	Source
2014	A & C EMBROIDERY	EDR Digital Archive
	A & C EMBROIDERY	EDR Digital Archive
2010	A & C EMBROIDERY	EDR Digital Archive
	A & C EMBROIDERY	EDR Digital Archive
2005	A & C EMBROIDERY	EDR Digital Archive
	A & C EMBROIDERY	EDR Digital Archive

EL CENTRO AVE

1590 EL CENTRO AVE

Year	Uses	Source
1975	MktHunter Carrol	R. L. Polk & Co.
	Lytle Alray	R. L. Polk & Co.

FINDINGS

1592 EL CENTRO AVE

Year	Uses	Source
1994	Lyttle AlRay	Pacific Bell

1603 EL CENTRO AVE

Year	Uses	Source
1975	No Return	R. L. Polk & Co.

1610 EL CENTRO AVE

Year	Uses	Source
1994	Ritchie George & Inez	Pacific Bell
1975	Marshall Charles K	R. L. Polk & Co.

1630 EL CENTRO AVE

Year	Uses	Source
1975	Minix Rex L	R. L. Polk & Co.

1662 EL CENTRO AVE

Year	Uses	Source
1994	Cardwell Wm D Jr	Pacific Bell
1975	Cardwell Wm D Jr	R. L. Polk & Co.

1664 EL CENTRO AVE

Year	Uses	Source
1975	De Lonzor Robt V	R. L. Polk & Co.

1666 EL CENTRO AVE

Year	Uses	Source
1975	Hutson Robt	R. L. Polk & Co.

El Centro Ave

1686 El Centro Ave

Year	Uses	Source
2005	HOOD CERAMIC TILE CO	EDR Digital Archive
	HOOD CERAMIC TILE CO	EDR Digital Archive

EL CENTRO AVE

1686 EL CENTRO AVE

Year	Uses	Source
1975	Biale Aldo	R. L. Polk & Co.

FINDINGS

El Centro Ave

1703 El Centro Ave

Year	Uses	Source
2010	MOX BRIAN	EDR Digital Archive
	MOX BRIAN	EDR Digital Archive

EL CENTRO AVE

1715 EL CENTRO AVE

Year	Uses	Source
1994	Conner Tim	Pacific Bell

1748 EL CENTRO AVE

Year	Uses	Source
1975	No Return	R. L. Polk & Co.
	Farmer Bert R	R. L. Polk & Co.

1749 EL CENTRO AVE

Year	Uses	Source
1975	Thomas Harry A	R. L. Polk & Co.

1750 EL CENTRO AVE

Year	Uses	Source
1994	Forsythe Bill	Pacific Bell
1975	Forsythe Wm	R. L. Polk & Co.

HAMPTON WAY

3979 HAMPTON WAY

Year	Uses	Source
1994	Petersen W A	Pacific Bell

Moss Ct

6 Moss Ct

Year	Uses	Source
2010	LYNDA SIT	EDR Digital Archive
	LYNDA SIT	EDR Digital Archive

FINDINGS

14 Moss Ct

Year	Uses	Source
2014	R C PLUMBING	EDR Digital Archive
	R C PLUMBING	EDR Digital Archive

15 Moss Ct

Year	Uses	Source
2014	WILKES RODNEY T	EDR Digital Archive
	WILKES RODNEY T	EDR Digital Archive
2010	WILKES RODNEY T	EDR Digital Archive
	WILKES RODNEY T	EDR Digital Archive

Moss Ln

100 Moss Ln

Year	Uses	Source
2014	JSF WINE GROUP LLC	EDR Digital Archive
	JSF WINE GROUP LLC	EDR Digital Archive

118 Moss Ln

Year	Uses	Source
2014	L2 VENTURES LLC	EDR Digital Archive
	L2 VENTURES LLC	EDR Digital Archive

154 Moss Ln

Year	Uses	Source
2014	NAPA SPECIALTY COATINGS INC	EDR Digital Archive
	NAPA SPECIALTY COATINGS INC	EDR Digital Archive

160 Moss Ln

Year	Uses	Source
2005	GOOD FEET STORE	EDR Digital Archive
	GOOD FEET STORE	EDR Digital Archive

172 Moss Ln

Year	Uses	Source
2014	ABES ELECTRONICS	EDR Digital Archive
	ABES ELECTRONICS	EDR Digital Archive

FINDINGS

SAN VICENTE AVE

1627 SAN VICENTE AVE

Year	Uses	Source
1994	Carslund Walter J	Pacific Bell

1635 SAN VICENTE AVE

Year	Uses	Source
1994	SYSTEMS	Pacific Bell
	DATA VERIFICATION	Pacific Bell

1637 SAN VICENTE AVE

Year	Uses	Source
1994	Harper Arthur L	Pacific Bell

1639 SAN VICENTE AVE

Year	Uses	Source
1994	Francis Leo H	Pacific Bell

San Vicente Ave

1641 San Vicente Ave

Year	Uses	Source
2014	CENTRAL BUSINESS SERVICES	EDR Digital Archive
	CENTRAL BUSINESS SERVICES	EDR Digital Archive
2010	CENTRAL BUSINESS SERVICES	EDR Digital Archive
	CENTRAL BUSINESS SERVICES	EDR Digital Archive
2005	CENTRAL BUSINESS SERVICES	EDR Digital Archive
	CENTRAL BUSINESS SERVICES	EDR Digital Archive

SAN VICENTE AVE

1644 SAN VICENTE AVE

Year	Uses	Source
1994	Garcia Dixie L	Pacific Bell

1651 SAN VICENTE AVE

Year	Uses	Source
1994	Lawrence Morgan	Pacific Bell

FINDINGS

1652 SAN VICENTE AVE

Year	*Uses*	*Source*
1994	Melashenko Terry	Pacific Bell

1655 SAN VICENTE AVE

Year	*Uses*	*Source*
1994	Tyner J C	Pacific Bell

1656 SAN VICENTE AVE

Year	*Uses*	*Source*
1994	Mini Edwin D	Pacific Bell

1673 SAN VICENTE AVE

Year	*Uses*	*Source*
1994	Dean Richard & Edwana	Pacific Bell

1698 SAN VICENTE AVE

Year	*Uses*	*Source*
1994	Chambers Susan	Pacific Bell

SAN VINCENTE AVE

1655 SAN VINCENTE AVE

Year	*Uses*	*Source*
1975	Tyner Jim	R. L. Polk & Co.

1656 SAN VINCENTE AVE

Year	*Uses*	*Source*
1975	Mini Edwin D	R. L. Polk & Co.

1661 SAN VINCENTE AVE

Year	*Uses*	*Source*
1975	Winz Virgil L	R. L. Polk & Co.

1668 SAN VINCENTE AVE

Year	*Uses*	*Source*
1975	Dowdle Carl E	R. L. Polk & Co.

1672 SAN VINCENTE AVE

Year	*Uses*	*Source*
1975	Holman Ronald	R. L. Polk & Co.

FINDINGS

1673 SAN VINCENTE AVE

Year	Uses	Source
1975	Leonardo Emile J	R. L. Polk & Co.

1684 SAN VINCENTE AVE

Year	Uses	Source
1975	Raue Barbara J	R. L. Polk & Co.

1698 SAN VINCENTE AVE

Year	Uses	Source
1975	Foltz Melvyn L	R. L. Polk & Co.

Unwin Dr

1875 Unwin Dr

Year	Uses	Source
2014	SHOWN STEVE	EDR Digital Archive
	PRECIOUS PROPERTIES LLC	EDR Digital Archive
	SHOWN STEVE	EDR Digital Archive
	PRECIOUS PROPERTIES LLC	EDR Digital Archive
2010	TEAL REAL ESTATE	EDR Digital Archive
	SHOWN STEVE	EDR Digital Archive
	PRECIOUS PROPERTIES LLC	EDR Digital Archive
	TEAL REAL ESTATE	EDR Digital Archive
	SHOWN STEVE	EDR Digital Archive
	PRECIOUS PROPERTIES LLC	EDR Digital Archive

1878 Unwin Dr

Year	Uses	Source
2010	OFF THE BAR TUTORING	EDR Digital Archive
	OFF THE BAR TUTORING	EDR Digital Archive

1909 Unwin Dr

Year	Uses	Source
2010	DANNYKPLAZACOM	EDR Digital Archive
	DANNYKPLAZACOM	EDR Digital Archive

FINDINGS

VALENCIA CT

1910 VALENCIA CT

Year	Uses	Source
1994	Hammon Dwightl E	Pacific Bell

1913 VALENCIA CT

Year	Uses	Source
1994	Riggs Eugene H	Pacific Bell

1918 VALENCIA CT

Year	Uses	Source
1994	Mc Cune Carlyle S	Pacific Bell

1923 VALENCIA CT

Year	Uses	Source
1994	Klrkland Rodney W	Pacific Bell

1924 VALENCIA CT

Year	Uses	Source
1994	De Louise Joseph	Pacific Bell
	De Louise Sandy & Betis	Pacific Bell

1925 VALENCIA CT

Year	Uses	Source
1994	Workman Gary	Pacific Bell

1928 VALENCIA CT

Year	Uses	Source
1994	Myers John & Sandra	Pacific Bell

1931 VALENCIA CT

Year	Uses	Source
1994	Holland Jas I	Pacific Bell

1936 VALENCIA CT

Year	Uses	Source
1994	Krlder Bob & Randy	Pacific Bell

1938 VALENCIA CT

Year	Uses	Source
1994	Herter Larry W	Pacific Bell

FINDINGS

Valencia St

1904 Valencia St

Year	Uses	Source
2010	NV HOPPERS	EDR Digital Archive
	NV HOPPERS	EDR Digital Archive

VALENCIA ST

1911 VALENCIA ST

Year	Uses	Source
1975	Souders Donald	R. L. Polk & Co.

Valencia St

1913 Valencia St

Year	Uses	Source
2005	CAIIA	EDR Digital Archive
	CAIIA	EDR Digital Archive

VALENCIA ST

1913 VALENCIA ST

Year	Uses	Source
1975	Under Constn	R. L. Polk & Co.

Valencia St

1914 Valencia St

Year	Uses	Source
2014	NEW WORLD TILE & MARBLE	EDR Digital Archive
	NEW WORLD TILE & MARBLE	EDR Digital Archive

1918 Valencia St

Year	Uses	Source
2014	MCCUNE BILL	EDR Digital Archive
	MCCUNE BILL	EDR Digital Archive
2010	MCCUNE BILL	EDR Digital Archive
	MCCUNE BILL	EDR Digital Archive
2005	MCCUNE BILL	EDR Digital Archive
	MCCUNE BILL	EDR Digital Archive

FINDINGS

Verbena St

3969 Verbena St

Year	*Uses*	*Source*
2010	CARL L SPEIZER MD A PROF CORP	EDR Digital Archive
	CARL L SPEIZER MD A PROF CORP	EDR Digital Archive

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
1583 and 1657 El Centro Avenue	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
100 Moss Ln	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
100 Moss Ln	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
118 Moss Ln	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
118 Moss Ln	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
14 Moss Ct	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
14 Moss Ct	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1481 El Centro Ave	2014, 2010, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1481 El Centro Ave	2014, 2010, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
15 Moss Ct	2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
15 Moss Ct	2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1514 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
154 Moss Ln	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
154 Moss Ln	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1547 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1580 El Centro Ave	2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1580 El Centro Ave	2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923

FINDINGS

Address Researched	Address Not Identified in Research Source
1590 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1592 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
160 Moss Ln	2014, 2010, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
160 Moss Ln	2014, 2010, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1603 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1610 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1627 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1630 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1635 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1637 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1639 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1641 San Vicente Ave	2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1641 San Vicente Ave	2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1644 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1651 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1652 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1655 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1655 SAN VINCENTE AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1656 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1656 SAN VINCENTE AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1661 SAN VINCENTE AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1662 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1664 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1666 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923

FINDINGS

Address Researched	Address Not Identified in Research Source
1668 SAN VINCENTE AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1672 SAN VINCENTE AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1673 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1673 SAN VINCENTE AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1684 SAN VINCENTE AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1686 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1686 El Centro Ave	2014, 2010, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1686 El Centro Ave	2014, 2010, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1698 SAN VICENTE AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1698 SAN VINCENTE AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1703 El Centro Ave	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1703 El Centro Ave	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1715 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
172 Moss Ln	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
172 Moss Ln	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1748 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1749 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1750 EL CENTRO AVE	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1875 Unwin Dr	2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1875 Unwin Dr	2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1878 Unwin Dr	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1878 Unwin Dr	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1904 Valencia St	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1904 Valencia St	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923

FINDINGS

Address Researched	Address Not Identified in Research Source
1909 Unwin Dr	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1909 Unwin Dr	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1910 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1911 VALENCIA ST	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1913 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1913 VALENCIA ST	2014, 2010, 2005, 2003, 1996, 1994, 1990, 1981, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1913 Valencia St	2014, 2010, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1913 Valencia St	2014, 2010, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1914 Valencia St	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1914 Valencia St	2010, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1918 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1918 Valencia St	2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1918 Valencia St	2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1923 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1924 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1925 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1928 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1931 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1936 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
1938 VALENCIA CT	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
3969 Verbena St	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
3969 Verbena St	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
3979 HAMPTON WAY	2014, 2010, 2005, 2003, 1996, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923
6 Moss Ct	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923

FINDINGS

Address Researched	Address Not Identified in Research Source
6 Moss Ct	2014, 2005, 2003, 1996, 1994, 1990, 1981, 1975, 1970, 1965, 1960, 1954, 1947, 1942, 1935, 1929, 1923

Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558

Inquiry Number: 5147412.8
December 29, 2017

EDR Building Permit Report

Target Property and Adjoining Properties

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

About This Report

Executive Summary

Findings

Glossary

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILD FAX PROPERTY HISTORY

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of CKG Environmental on Dec 29, 2017.

TARGET PROPERTY

1583 & 1657 El Centro Avenue
Napa, CA 94558

SEARCH METHODS

EDR searches available lists for both the Target Property and Surrounding Properties.

RESEARCH SUMMARY

Building permits identified: **YES**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Napa

Year	*Source*	*TP*	*Adjoining*
2017	City of Napa, Community Development Department		X
	City of Napa, Community Development Department	X	
2016	City of Napa, Community Development Department		X
2015	City of Napa, Community Development Department		X
	City of Napa, Community Development Department	X	
2014	City of Napa, Community Development Department		X
2013	City of Napa, Community Development Department		X
2012	City of Napa, Community Development Department		X
2011	City of Napa, Community Development Department		X
2010	City of Napa, Community Development Department		X
2009	City of Napa, Community Development Department		X
2008	City of Napa, Community Development Department		X
	City of Napa, Community Development Department	X	
2007	City of Napa, Community Development Department		X
2006	City of Napa, Community Development Department		X
2005	City of Napa, Community Development Department		X
2004	City of Napa, Community Development Department		X
2003	City of Napa, Community Development Department		X
2002	City of Napa, Community Development Department		X
2001	City of Napa, Community Development Department		X
2000	City of Napa, Community Development Department		X
1999	City of Napa, Community Development Department		
1998	City of Napa, Community Development Department		X
1997	City of Napa, Community Development Department		X
1996	City of Napa, Community Development Department		X
1995	City of Napa, Community Development Department		X
1994	City of Napa, Community Development Department		X
1993	City of Napa, Community Development Department		X

EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

Year	Source	TP	Adjoining
1992	City of Napa, Community Development Department		X
1991	City of Napa, Community Development Department		X
1990	City of Napa, Community Development Department		X
1989	City of Napa, Community Development Department		
1988	City of Napa, Community Development Department		
1987	City of Napa, Community Development Department		
1986	City of Napa, Community Development Department		
1985	City of Napa, Community Development Department		
1984	City of Napa, Community Development Department		
1983	City of Napa, Community Development Department		
1982	City of Napa, Community Development Department		
1981	City of Napa, Community Development Department		
1980	City of Napa, Community Development Department		

Napa County Unincorporated Area

Year	Source	TP	Adjoining
2017	County of Napa, Building and Development		
2016	County of Napa, Building and Development		
2015	County of Napa, Building and Development		
2014	County of Napa, Building and Development		
2013	County of Napa, Building and Development		
2012	County of Napa, Building and Development		
2011	County of Napa, Building and Development		
2010	County of Napa, Building and Development		
2009	County of Napa, Building and Development		
2008	County of Napa, Building and Development		
2007	County of Napa, Building and Development	X	
2006	County of Napa, Building and Development		X
2005	County of Napa, Building and Development		
2004	County of Napa, Building and Development		X
2003	County of Napa, Building and Development	X	
2002	County of Napa, Building and Development		
2001	County of Napa, Building and Development	X	
2000	County of Napa, Building and Development		
1999	County of Napa, Building and Development		
1998	County of Napa, Building and Development		
1997	County of Napa, Building and Development		
1996	County of Napa, Building and Development		

BUILDING DEPARTMENT RECORDS SEARCHED

Name: Napa
Years: 1980-2017
Source: City of Napa, Community Development Department, NAPA, CA
Phone: (707) 257-9540

Name: Napa County Unincorporated Area
Years: 1996-2017
Source: County of Napa, Building and Development, NAPA, CA
Phone: (707) 253-4416

TARGET PROPERTY FINDINGS

TARGET PROPERTY DETAIL

1583 & 1657 El Centro Avenue
Napa, CA 94558

1583 EL CENTRO AVE

Date:	**4/25/2017**
Permit Type:	
Description:	**BURNING**
Permit Description:	**FD LTD OPEN BURN**
Work Class:	
Proposed Use:	
Permit Number:	F1704-0005
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**2/17/2015**
Permit Type:	
Description:	**PORCH REPAIRS (FRONT & BACK)**
Permit Description:	**MINOR BUILDING**
Work Class:	
Proposed Use:	
Permit Number:	EQ1502-0030
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

TARGET PROPERTY FINDINGS

Date:
Permit Type:
Description:

Permit Description:
Work Class:
Proposed Use:
Permit Number: E11-00494
Status:
Valuation: $0.00
Contractor Company:
Contractor Name:

Date:
Permit Type:
Description:

Permit Description:
Work Class:
Proposed Use:
Permit Number: E11-00495
Status:
Valuation: $0.00
Contractor Company:
Contractor Name:

1657 EL CENTRO AVE

Date: **4/21/2008**
Permit Type:
Description: **ADD ELECTRICAL METER FOR WELL (100 AMP) - 2.5 HORSE POWER**

Permit Description: **ELECTRICAL**
Work Class:
Proposed Use:
Permit Number: E0804-0011
Status: FINALED
Valuation: $1,500.00
Contractor Company:
Contractor Name: BIALE, CLEMENTINA

TARGET PROPERTY FINDINGS

Date:	**7/31/2007**
Permit Type:	**Electrical Plumbing Mechanical**
Description:	**REPLACE 89,000 BTU FURNACE, REPLACE 89;000 BTU FURNACE**
Permit Description:	**Building**
Work Class:	Replace
Proposed Use:	Appliance
Permit Number:	B04-00189
Status:	Final
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**4/23/2003**
Permit Type:	**Residential**
Description:	**DWELLING ADDITION AND ALTERATION**
Permit Description:	**Building**
Work Class:	Addition
Proposed Use:	One Dwelling
Permit Number:	B03-00752
Status:	Final
Valuation:	$49,952.25
Contractor Company:	
Contractor Name:	

Date:	**2/8/2001**
Permit Type:	**Electrical Plumbing Mechanical**
Description:	**RPLC FRNC & ADD A/C-CARRIER/58MXA080116-38TZA0483**
Permit Description:	**Building**
Work Class:	Replace
Proposed Use:	Appliance
Permit Number:	B01-00146
Status:	Final
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

TARGET PROPERTY FINDINGS

Date:
Permit Type:
Description:

Permit Description:
Work Class:
Proposed Use:
Permit Number: 4019
Status:
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

BRYCE CT

1672 BRYCE CT

Date:	**7/6/2017**
Permit Type:	
Description:	**A/C COIL REPLACEMENT**
Permit Description:	**MECHANICAL**
Work Class:	
Proposed Use:	
Permit Number:	M1707-0006
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**1/9/2007**
Permit Type:	**RES REROOF**
Description:	**RE-ROOF COMP**
Permit Description:	
Work Class:	Composition
Proposed Use:	
Permit Number:	B0701-0009
Status:	Finaled
Valuation:	$5,600.00
Contractor Company:	
Contractor Name:	OGLE, DAVID

ADJOINING PROPERTY FINDINGS

Date: **5/28/1996**
Permit Type: **HISTORICAL RECORD**
Description: **SWIMMING POOL**

Permit Description:
Work Class:
Proposed Use: Signs, Pools etc
Permit Number: 96 005 BP 154
Status: EXPIRED
Valuation: $19,000.00
Contractor Company:
Contractor Name: PARADISE POOLS & LANDSCAPES

EL CENTRO AVE

1481 EL CENTRO AVE

Date: **4/26/2002**
Permit Type: **HISTORICAL RECORD**
Description: **TEMP POWER POLE**

Permit Description:
Work Class:
Proposed Use: Other Com Bldg
Permit Number: 02 004 BP 240
Status: FINALED
Valuation: $1,575.00
Contractor Company:
Contractor Name: SILVERADO ELECTRIC

ADJOINING PROPERTY FINDINGS

Date: **10/13/2000**
Permit Type: **HISTORICAL RECORD**
Description: **TEMPORARY SERVICE POLE**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 00 010 BP 235
Status: EXPIRED
Valuation: $1,400.00
Contractor Company:
Contractor Name: SILVERADO ELECTRIC

Date: **9/18/2000**
Permit Type: **HISTORICAL RECORD**
Description: **DEMOLITION - SFD**

Permit Description:
Work Class:
Proposed Use: 1 Fam Demo
Permit Number: 00 009 BP 123
Status: EXPIRED
Valuation: $8,500.00
Contractor Company:
Contractor Name: DANIEL O DAVIS, INC.

Date: **1/6/1993**
Permit Type: **HISTORICAL RECORD**
Description: **BATHROOM REMODEL**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 93 001 BP 012
Status: FINALED
Valuation: $5,000.00
Contractor Company:
Contractor Name: COONEY & CO

ADJOINING PROPERTY FINDINGS

1514 EL CENTRO AVE

Date:	**1/13/1992**
Permit Type:	**HISTORICAL RECORD**
Description:	**DEMOLITION**
Permit Description:	
Work Class:	
Proposed Use:	1 Fam Demo
Permit Number:	92 001 BP 031
Status:	EXPIRED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	CITY OF NAPA

1525 EL CENTRO AVE

Date:	**9/12/2003**
Permit Type:	**HISTORICAL RECORD**
Description:	**ELECTRICAL SERVICE CHANGE**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	03 009 BP 124
Status:	EXPIRED
Valuation:	$1,000.00
Contractor Company:	
Contractor Name:	AIKEN UNDERGROUND

ADJOINING PROPERTY FINDINGS

1547 EL CENTRO AVE

Date:	**8/15/1994**
Permit Type:	**HISTORICAL RECORD**
Description:	**GRADING**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	94 008 BP 058
Status:	EXPIRED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	CARNEROS BUILDING & DEVELOPMEN

1556 EL CENTRO AVE

Date:	**11/4/2005**
Permit Type:	**HISTORICAL RECORD**
Description:	**FIBERGLASS POOL, FIBERGLASS POOL FIBERGLASS POOL**
Permit Description:	
Work Class:	Signs, Pools etc
Proposed Use:	
Permit Number:	05 009 BP 148
Status:	Finaled
Valuation:	$40,000.00
Contractor Company:	
Contractor Name:	CLYDE CONSTRUCTION

ADJOINING PROPERTY FINDINGS

Date: **5/28/2004**
Permit Type: **HISTORICAL RECORD**
Description: **ELECTRICAL SERIVICE CHANGE**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 04 005 BP 254
Status: EXPIRED
Valuation: $1,200.00
Contractor Company:
Contractor Name: SELF

1580 EL CENTRO AVE

Date: **3/14/1996**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE WATER HEATERS**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 96 003 BP 076
Status: EXPIRED
Valuation: $0.00
Contractor Company:
Contractor Name: ALL STAR PLUMBING AND EZ DECOR

Date: **7/13/1990**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 90 007 BP 083
Status: FINALED
Valuation: $109,714.00
Contractor Company:
Contractor Name: SELF

ADJOINING PROPERTY FINDINGS

1590 EL CENTRO AVE

Date:	**8/15/2017**
Permit Type:	
Description:	**R/R 5 VINYL WINDOWS**
Permit Description:	**WINDOWS DOORS**
Work Class:	
Proposed Use:	
Permit Number:	B1708-0087
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**6/1/1990**
Permit Type:	**HISTORICAL RECORD**
Description:	**RE-ROOF HOUSE & GARAGE**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	90 006 BP 009
Status:	EXPIRED
Valuation:	$5,500.00
Contractor Company:	
Contractor Name:	STUBBS ROOFING

ADJOINING PROPERTY FINDINGS

1592 EL CENTRO AVE

Date:	**10/13/2000**
Permit Type:	**HISTORICAL RECORD**
Description:	**DEMO FP/INSTALL O CLR UNIT**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	00 010 BP 262
Status:	FINALED
Valuation:	$8,000.00
Contractor Company:	
Contractor Name:	

1610 EL CENTRO AVE

Date:	**11/7/2003**
Permit Type:	**HISTORICAL RECORD**
Description:	**REPLACE FURNACE**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	03 011 BP 049
Status:	FINALED
Valuation:	$1,956.00
Contractor Company:	
Contractor Name:	BELL PRODUCTS INC

ADJOINING PROPERTY FINDINGS

1630 EL CENTRO AVE

Date:	**7/15/2009**
Permit Type:	
Description:	**INSTALL SOLAR SYSTEM PLNS DESTROYED**
Permit Description:	**SOLAR PANEL**
Work Class:	
Proposed Use:	
Permit Number:	B0907-0051
Status:	FINALED
Valuation:	$10,000.00
Contractor Company:	
Contractor Name:	SMITH, VALERIE

Date:	**9/13/2002**
Permit Type:	**HISTORICAL RECORD**
Description:	**RETRO-FIT FAC/CHIM/BOND BEAM**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	02 009 BP 130
Status:	EXPIRED
Valuation:	$1,000.00
Contractor Company:	
Contractor Name:	SELF

ADJOINING PROPERTY FINDINGS

Date: **3/13/2002**
Permit Type:
Description: **KITCHEN REMODEL/REPLACE 10 KITCHEN REMODEL/REPLACE 10, KITCHEN REMODEL/REPLACE 10**

Permit Description:
Work Class: RES REMODEL
Proposed Use:
Permit Number: 02 003 BP 101
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: SELF

Date: **5/25/2001**
Permit Type: **HISTORICAL RECORD**
Description: **REMOVE BRICK FACADE PILLAR**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 01 005 BP 277
Status: FINALED
Valuation: $100.00
Contractor Company:
Contractor Name: SELF

Date: **6/10/1998**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE HEATING & AIR COND**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 98 006 BP 102
Status: EXPIRED
Valuation: $0.00
Contractor Company:
Contractor Name: KRAINERT HEATING & AIR CONDITI

ADJOINING PROPERTY FINDINGS

1662 EL CENTRO AVE

Date:	**7/27/1998**
Permit Type:	**HISTORICAL RECORD**
Description:	**RE-ROOF - 3 HOUSES - COMP**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	98 007 BP 191
Status:	FINALED
Valuation:	$12,200.00
Contractor Company:	
Contractor Name:	FAMILY ROOFING BY VAN RONK, IN

1686 EL CENTRO AVE

Date:	**9/3/2004**
Permit Type:	**History Permit Plus**
Description:	**Parcel Map**
Permit Description:	**Building**
Work Class:	All
Proposed Use:	History
Permit Number:	E04-0402
Status:	Approved
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date:
Permit Type:
Description: **WATER LINE FM STREET TO HOUSE**

Permit Description:
Work Class:
Proposed Use:
Permit Number: 05 008 BP 165
Status:
Valuation: $0.00
Contractor Company:
Contractor Name: SELF

1703 EL CENTRO AVE

Date: **6/8/2011**
Permit Type:
Description: **REPLACE FURNACE & A/C (91% EFF & 17.5 SEER)**

Permit Description: **FURNACE AC**
Work Class:
Proposed Use:
Permit Number: M1106-0006
Status: FINALED
Valuation: $9,820.00
Contractor Company:
Contractor Name: BELL PRODUCTS INC, CONTRACTOR

Date: **7/20/2010**
Permit Type:
Description: **REMODEL BATHROOM**

Permit Description: **RES REMODEL**
Work Class:
Proposed Use:
Permit Number: B1007-0102
Status: ISSUED
Valuation: $16,000.00
Contractor Company:
Contractor Name: MOX, BRIAN G

ADJOINING PROPERTY FINDINGS

1715 EL CENTRO AVE

Date:	**8/15/2017**
Permit Type:	
Description:	**WATER HEATER REPLACEMENT**
Permit Description:	**PLUMBING**
Work Class:	
Proposed Use:	
Permit Number:	P1708-0004
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**2/10/2006**
Permit Type:	**FURNACE AC**
Description:	**HVAC**
Permit Description:	
Work Class:	
Proposed Use:	
Permit Number:	M0509-0003
Status:	FINALED
Valuation:	$3,200.00
Contractor Company:	
Contractor Name:	

Date:	**2/10/2006**
Permit Type:	**RES ADDITION**
Description:	**BEDROOM & BATHROOM ADDITION**
Permit Description:	
Work Class:	
Proposed Use:	
Permit Number:	B0510-0115
Status:	FINALED
Valuation:	$54,890.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

EL CENTRO AVE # 2

1686 EL CENTRO AVE # 2

Date:	**9/3/2004**
Permit Type:	**History Permit Plus**
Description:	**Parcel Map**
Permit Description:	**Building**
Work Class:	All
Proposed Use:	History
Permit Number:	E04-0402
Status:	Approved
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	
Permit Type:	
Description:	**WATER LINE FM STREET TO HOUSE**
Permit Description:	
Work Class:	
Proposed Use:	
Permit Number:	05 008 BP 165
Status:	
Valuation:	$0.00
Contractor Company:	
Contractor Name:	SELF

ADJOINING PROPERTY FINDINGS

LASSEN ST

3966 LASSEN ST

Date:	**10/19/1992**
Permit Type:	**HISTORICAL RECORD**
Description:	**RE-ROOF COMP**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	92 010 BP 080
Status:	EXPIRED
Valuation:	$4,326.00
Contractor Company:	
Contractor Name:	HALVORSEN CONSTRUCTION & RE-RO

3968 LASSEN ST

Date:	**12/16/1998**
Permit Type:	**HISTORICAL RECORD**
Description:	**RE-ROOF COMP**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	98 012 BP 119
Status:	FINALED
Valuation:	$4,650.00
Contractor Company:	
Contractor Name:	GENESIS GENERAL BUILDING CONTR

ADJOINING PROPERTY FINDINGS

MOSS CT

1 MOSS CT

Date:	**11/27/2000**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	00 011 BP 372
Status:	FINALED
Valuation:	$155,475.00
Contractor Company:	
Contractor Name:	SAME

15 MOSS CT

Date:	**7/31/2014**
Permit Type:	
Description:	**MEDIA ROOM; ADD FLOOR SPACE UPSTAIRS**
Permit Description:	**RES ADDITION**
Work Class:	
Proposed Use:	
Permit Number:	B1407-0154
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **7/3/2003**
Permit Type: **HISTORICAL RECORD**
Description: **SINGLE FAMILY DWELLING PLANS DESTROYED**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 03 007 BP 051
Status: FINALED
Valuation: $194,162.00
Contractor Company:
Contractor Name: SAME

2 MOSS CT

Date: **10/23/2000**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 00 010 BP 458
Status: FINALED
Valuation: $131,350.50
Contractor Company:
Contractor Name: MESCHER HOMES INC

ADJOINING PROPERTY FINDINGS

5 MOSS CT

Date:	**3/14/2003**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	03 003 BP 114
Status:	FINALED
Valuation:	$188,726.80
Contractor Company:	
Contractor Name:	SELF

6 MOSS CT

Date:	**1/25/2001**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	01 001 BP 323
Status:	EXPIRED
Valuation:	$155,475.00
Contractor Company:	
Contractor Name:	SAME

ADJOINING PROPERTY FINDINGS

9 MOSS CT

Date:	**6/27/2000**
Permit Type:	**HISTORICAL RECORD**
Description:	**SINGLE FAMILY DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	00 006 BP 208
Status:	FINALED
Valuation:	$179,658.00
Contractor Company:	
Contractor Name:	SELF

MOSS LN

100 MOSS LN

Date:	**4/30/2014**
Permit Type:	
Description:	**KITCHEN & BATH REMODEL**
Permit Description:	**RES REMODEL**
Work Class:	
Proposed Use:	
Permit Number:	B1404-0149
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **11/7/2013**
Permit Type:
Description: **WATER HEATER**

Permit Description: **WATER HEATER**
Work Class:
Proposed Use:
Permit Number: P1311-0003
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **4/22/1996**
Permit Type: **HISTORICAL RECORD**
Description: **INSTALL SWIMMING POOL**

Permit Description:
Work Class:
Proposed Use: Signs, Pools etc
Permit Number: 96 004 BP 127
Status: FINALED
Valuation: $21,230.00
Contractor Company:
Contractor Name: LUCAS SWIMMING POOL SERVICE

Date: **11/6/1995**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 95 011 BP 044
Status: FINALED
Valuation: $162,559.00
Contractor Company:
Contractor Name: SAME

ADJOINING PROPERTY FINDINGS

112 MOSS LN

Date:	**10/28/2014**
Permit Type:	
Description:	**RES - INSTALL 18 ROOF MOUNTED SOLAR PANELS**
Permit Description:	**SOLAR PANEL**
Work Class:	
Proposed Use:	
Permit Number:	E1410-0050
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**8/13/1996**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	96 008 BP 075
Status:	FINALED
Valuation:	$163,728.00
Contractor Company:	
Contractor Name:	SAME

Date:	**4/10/1996**
Permit Type:	**HISTORICAL RECORD**
Description:	**FOUNDATION ONLY FOR SFD**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	96 004 BP 058
Status:	EXPIRED
Valuation:	$7,098.00
Contractor Company:	
Contractor Name:	SAME

ADJOINING PROPERTY FINDINGS

118 MOSS LN

Date:	**7/2/2015**
Permit Type:	
Description:	**REPLACE SIDING ON ENTIRE HOUSE**
Permit Description:	**SIDING**
Work Class:	
Proposed Use:	
Permit Number:	B1507-0014
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**7/13/2010**
Permit Type:	
Description:	**REPLACE 2 WINDOWS**
Permit Description:	**WINDOWS DOORS**
Work Class:	
Proposed Use:	
Permit Number:	B1007-0058
Status:	FINALED
Valuation:	$1,026.00
Contractor Company:	
Contractor Name:	LONG, GAVIN M & KARA N

Date:	**2/10/1998**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	98 002 BP 031
Status:	FINALED
Valuation:	$163,728.00
Contractor Company:	
Contractor Name:	SAME

ADJOINING PROPERTY FINDINGS

124 MOSS LN

Date: **9/21/2016**
Permit Type:
Description: **R/R DAMAGED SIDING**

Permit Description: **SIDING**
Work Class:
Proposed Use:
Permit Number: B1609-0112
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **7/13/2016**
Permit Type:
Description: **PANEL CHANGE**

Permit Description: **ELECTRICAL**
Work Class:
Proposed Use:
Permit Number: E1607-0019
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **10/28/2015**
Permit Type:
Description: **INSTALL GAS INSERT**

Permit Description: **MECHANICAL**
Work Class:
Proposed Use:
Permit Number: M1510-0028
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **10/5/2015**
Permit Type:
Description: **GAS LINE AND SEISMIC SHUT OFF VALVE FOR FIREPLACE**

Permit Description: **PLUMBING**
Work Class:
Proposed Use:
Permit Number: P1510-0004
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **4/7/2015**
Permit Type:
Description: **FURNACE**

Permit Description: **FURNACE AC**
Work Class:
Proposed Use:
Permit Number: M1504-0007
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **5/19/2014**
Permit Type:
Description: **RE-ROOF COMP (TEAR OFF) HOUSE & GARAGE**

Permit Description: **RES REROOF**
Work Class:
Proposed Use:
Permit Number: B1405-0094
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **8/13/2007**
Permit Type: **SIDING**
Description: **REPLACE SIDING CHIMINEY**

Permit Description:
Work Class: <none>
Proposed Use:
Permit Number: B0708-0051
Status: Issued
Valuation: $4,500.00
Contractor Company:
Contractor Name: COFFMAN, LAURA

Date: **12/22/2006**
Permit Type: **WINDOWS DOORS**
Description: **REPLACE 4 WINDOWS & 1 FRENCH DOOR**

Permit Description:
Work Class:
Proposed Use:
Permit Number: B0609-0107
Status: FINALED
Valuation: $7,374.00
Contractor Company:
Contractor Name: AMERICAN WINDOW SYSTEMS INC.

Date: **8/13/1996**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 96 008 BP 078
Status: FINALED
Valuation: $163,728.00
Contractor Company:
Contractor Name: SAME

ADJOINING PROPERTY FINDINGS

Date: **6/13/1996**
Permit Type: **HISTORICAL RECORD**
Description: **SFD FOUNDATION ONLY**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 96 006 BP 098
Status: EXPIRED
Valuation: $7,098.00
Contractor Company:
Contractor Name: SAME

125 MOSS LN

Date: **9/7/1995**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 95 009 BP 039
Status: FINALED
Valuation: $162,559.00
Contractor Company:
Contractor Name: SAME

ADJOINING PROPERTY FINDINGS

130 MOSS LN

Date:	**2/9/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**WATER HEATER**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	04 002 BP 065
Status:	FINALED
Valuation:	$500.00
Contractor Company:	
Contractor Name:	HOT WATER INC.

Date:	**8/13/1996**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	96 008 BP 074
Status:	FINALED
Valuation:	$153,757.00
Contractor Company:	
Contractor Name:	SAME

Date:	**4/10/1996**
Permit Type:	**HISTORICAL RECORD**
Description:	**FOUNDATION ONLY FOR SFD**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	96 004 BP 057
Status:	EXPIRED
Valuation:	$5,098.00
Contractor Company:	
Contractor Name:	SAME

ADJOINING PROPERTY FINDINGS

131 MOSS LN

Date:	**11/6/1995**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	95 011 BP 046
Status:	FINALED
Valuation:	$141,449.00
Contractor Company:	
Contractor Name:	SAME

136 MOSS LN

Date:	**10/14/2015**
Permit Type:	
Description:	**REPLACE SIDING (ONE WALL)**
Permit Description:	**SIDING**
Work Class:	
Proposed Use:	
Permit Number:	B1510-0092
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **12/30/2014**
Permit Type:
Description: **RES - REROOF T/O AND ADD COMPOSITION (HOUSE/GARAGE)**

Permit Description: **RES REROOF**
Work Class:
Proposed Use:
Permit Number: B1412-0085
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **11/16/2004**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE 1 PATIO DOOR**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 04 011 BP 151
Status: FINALED
Valuation: $8,496.00
Contractor Company:
Contractor Name: AMERICAN WINDOW SYSTEMS INC.

Date: **11/9/1994**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 94 011 BP 063
Status: EXPIRED
Valuation: $143,330.00
Contractor Company:
Contractor Name: SAME

ADJOINING PROPERTY FINDINGS

137 MOSS LN

Date:	**9/7/1995**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	95 009 BP 040
Status:	FINALED
Valuation:	$162,559.00
Contractor Company:	
Contractor Name:	SAME

142 MOSS LN

Date:	**9/27/2017**
Permit Type:	
Description:	**T/O- INSTALL 30YR COMP**
Permit Description:	**RES REROOF**
Work Class:	
Proposed Use:	
Permit Number:	B1709-0123
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **11/9/1994**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 94 011 BP 062
Status: FINALED
Valuation: $127,805.00
Contractor Company:
Contractor Name: SAME

143 MOSS LN

Date: **1/8/2013**
Permit Type:
Description: **RE-ROOF COMP**

Permit Description: **RES REROOF**
Work Class: COMPOSITION
Proposed Use:
Permit Number: B1301-0026
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **11/9/1994**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 94 011 BP 064
Status: FINALED
Valuation: $146,780.00
Contractor Company:
Contractor Name: SAME

ADJOINING PROPERTY FINDINGS

148 MOSS LN

Date:	**6/18/2014**
Permit Type:	
Description:	**RES GAS WATER HEATER CHANGEOUT**
Permit Description:	**WATER HEATER**
Work Class:	
Proposed Use:	
Permit Number:	P1406-0014
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**1/2/2014**
Permit Type:	
Description:	**ROOF MOUNTED SOLAR PANEL**
Permit Description:	**SOLAR PANEL**
Work Class:	
Proposed Use:	
Permit Number:	B1401-0008
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**11/9/1994**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	94 011 BP 061
Status:	EXPIRED
Valuation:	$155,255.00
Contractor Company:	
Contractor Name:	SAME

ADJOINING PROPERTY FINDINGS

149 MOSS LN

Date:	**11/9/1994**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	94 011 BP 065
Status:	EXPIRED
Valuation:	$127,805.00
Contractor Company:	
Contractor Name:	SAME

154 MOSS LN

Date:	**2/8/2016**
Permit Type:	
Description:	**TEAR OF EXISTING / GO OVER WITH COMPOSITION SHINGLE**
Permit Description:	**RES REROOF**
Work Class:	
Proposed Use:	
Permit Number:	B1602-0038
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **10/28/1998**
Permit Type: **HISTORICAL RECORD**
Description: **GAS LINE FOR DRYER**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 98 010 BP 209
Status: FINALED
Valuation: $300.00
Contractor Company:
Contractor Name: STEVE SILVA PLUMBING SHOWROOM

Date: **11/9/1994**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 94 011 BP 060
Status: EXPIRED
Valuation: $146,780.00
Contractor Company:
Contractor Name: SAME

155 MOSS LN

Date: **8/11/2015**
Permit Type:
Description: **RE-ROOF COMP (TEAR OFF) HOUSE & GARAGE**

Permit Description: **RES REROOF**
Work Class:
Proposed Use:
Permit Number: B1508-0059
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **6/11/2008**
Permit Type: **FURNACE AC**
Description: **FURNACE (80% EFF) DUCT TEST REQ.**

Permit Description:
Work Class: Furnace
Proposed Use:
Permit Number: M0705-0023
Status: FINALED
Valuation: $8,456.00
Contractor Company:
Contractor Name: WILENSKY, ALLISON

Date: **11/9/1994**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 94 011 BP 066
Status: FINALED
Valuation: $155,255.00
Contractor Company:
Contractor Name: SAME

160 MOSS LN

Date: **10/4/2016**
Permit Type:
Description: **R/R WATER HEATER**

Permit Description: **PLUMBING**
Work Class:
Proposed Use:
Permit Number: P1610-0003
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **3/7/2007**
Permit Type: **WATER HEATER**
Description: **WATER HEATER**

Permit Description:
Work Class: <none>
Proposed Use:
Permit Number: P0703-0005
Status: Expired
Valuation: $382.50
Contractor Company:
Contractor Name: JONES, ERIC

Date: **12/17/1997**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 97 012 BP 093
Status: FINALED
Valuation: $153,757.00
Contractor Company:
Contractor Name: SAME

161 MOSS LN

Date: **8/13/1996**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 96 008 BP 076
Status: FINALED
Valuation: $141,449.00
Contractor Company:
Contractor Name: SAME

ADJOINING PROPERTY FINDINGS

Date: **4/10/1996**
Permit Type: **HISTORICAL RECORD**
Description: **FOUNDATION ONLY FOR SFD**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 96 004 BP 060
Status: EXPIRED
Valuation: $4,668.00
Contractor Company:
Contractor Name: SAME

166 MOSS LN

Date: **4/8/2014**
Permit Type:
Description: **RES REMODEL - RELOCATE WASHER/DRYER/MOVING EXTERIOR DOOR-**

Permit Description: **RES REMODEL**
Work Class:
Proposed Use:
Permit Number: B1404-0036
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **3/27/2013**
Permit Type:
Description: **INSTALL GAS INSERT**

Permit Description: **FIREPLACE**
Work Class:
Proposed Use:
Permit Number: M1303-0022
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **8/11/2011**
Permit Type:
Description: **BATHROOM REMODEL-DESTROY**

Permit Description: **RES REMODEL**
Work Class: KITCHEN / BATH
Proposed Use:
Permit Number: B1108-0076
Status: FINALED
Valuation: $1,500.00
Contractor Company:
Contractor Name:

Date: **12/17/1997**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 97 012 BP 094
Status: FINALED
Valuation: $163,728.00
Contractor Company:
Contractor Name: SAME

167 MOSS LN

Date: **11/6/1995**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 95 011 BP 047
Status: FINALED
Valuation: $150,173.00
Contractor Company:
Contractor Name: SAME

ADJOINING PROPERTY FINDINGS

172 MOSS LN

Date:	**1/28/2015**
Permit Type:	
Description:	**HVAC CHANGEOUT**
Permit Description:	**FURNACE AC**
Work Class:	
Proposed Use:	
Permit Number:	M1501-0032
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**12/17/1997**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	97 012 BP 095
Status:	FINALED
Valuation:	$141,449.00
Contractor Company:	
Contractor Name:	SAME

ADJOINING PROPERTY FINDINGS

173 MOSS LN

Date:	**7/21/2015**
Permit Type:	
Description:	**RE-ROOF COMP (TEAR OFF)**
Permit Description:	**RES REROOF**
Work Class:	
Proposed Use:	
Permit Number:	B1507-0095
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**11/6/1995**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	95 011 BP 048
Status:	FINALED
Valuation:	$109,510.00
Contractor Company:	
Contractor Name:	SAME

ADJOINING PROPERTY FINDINGS

178 MOSS LN

Date:	**9/30/2015**
Permit Type:	
Description:	**RE-ROOF CMOP (TEAR OFF)**
Permit Description:	**RES REROOF**
Work Class:	
Proposed Use:	
Permit Number:	B1509-0193
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**8/13/1996**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	96 008 BP 072
Status:	FINALED
Valuation:	$141,449.00
Contractor Company:	
Contractor Name:	SAME

Date:	**4/10/1996**
Permit Type:	**HISTORICAL RECORD**
Description:	**FOUNDATION ONLY FOR SFD**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	96 004 BP 059
Status:	EXPIRED
Valuation:	$4,668.00
Contractor Company:	
Contractor Name:	SAME

ADJOINING PROPERTY FINDINGS

179 MOSS LN

Date:	**8/3/1998**
Permit Type:	**HISTORICAL RECORD**
Description:	**DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	98 008 BP 014
Status:	EXPIRED
Valuation:	$163,728.00
Contractor Company:	
Contractor Name:	SAME

184 MOSS LN

Date:	**3/19/2015**
Permit Type:	
Description:	**WATER DAMAGE - REPLACE SIDING**
Permit Description:	**SIDING**
Work Class:	
Proposed Use:	
Permit Number:	B1503-0079
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **8/13/1996**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 96 008 BP 071
Status: FINALED
Valuation: $109,510.00
Contractor Company:
Contractor Name: SAME

Date: **4/10/1996**
Permit Type: **HISTORICAL RECORD**
Description: **FOUNDATION ONLY FOR SFD**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 96 004 BP 056
Status: EXPIRED
Valuation: $4,505.00
Contractor Company:
Contractor Name: SAME

185 MOSS LN

Date: **8/13/1996**
Permit Type: **HISTORICAL RECORD**
Description: **DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 96 008 BP 077
Status: FINALED
Valuation: $150,173.00
Contractor Company:
Contractor Name: SAME

ADJOINING PROPERTY FINDINGS

Date: **4/10/1996**
Permit Type: **HISTORICAL RECORD**
Description: **FOUNDATION ONLY FOR SFD**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 96 004 BP 061
Status: FINALED
Valuation: $5,097.00
Contractor Company:
Contractor Name: SAME

SAN VICENTE AVE

1637 SAN VICENTE AVE

Date: **6/10/2014**
Permit Type:
Description: **RES 8' X 28' OPEN LATTICE PATIO COVER**

Permit Description: **PATIO COVER**
Work Class:
Proposed Use:
Permit Number: B1406-0041
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **7/18/2000**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE WATER HEATER**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 00 007 BP 140
Status: FINALED
Valuation: $600.00
Contractor Company:
Contractor Name: BRUNSON PLUMBING (DAHEL INC)

1639 SAN VICENTE AVE

Date: **9/10/2013**
Permit Type:
Description: **BATHROOM REMODEL**

Permit Description: **RES REMODEL**
Work Class:
Proposed Use:
Permit Number: B1309-0056
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **5/14/2013**
Permit Type:
Description: **FURNACE & A/C (80% EFF & 13 SEER)**

Permit Description: **FURNACE AC**
Work Class:
Proposed Use:
Permit Number: M1305-0013
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

1641 SAN VICENTE AVE

Date:	**9/9/2014**
Permit Type:	
Description:	**RES - WATER HEATER CHANGEOUT**
Permit Description:	**WATER HEATER**
Work Class:	
Proposed Use:	
Permit Number:	P1409-0025
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

1645 SAN VICENTE AVE

Date:	**8/24/2017**
Permit Type:	
Description:	**R/R FURNACE & AC**
Permit Description:	**FURNACE AC**
Work Class:	
Proposed Use:	
Permit Number:	M1708-0037
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **11/26/2003**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE FURNACE**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 03 011 BP 216
Status: FINALED
Valuation: $1,952.06
Contractor Company:
Contractor Name: UTECHT INC DBA ACCURATE AIR SY

1647 SAN VICENTE AVE

Date: **4/11/2017**
Permit Type:
Description: **R/R WATER HEATER**

Permit Description: **PLUMBING**
Work Class:
Proposed Use:
Permit Number: P1704-0008
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **6/21/1991**
Permit Type: **HISTORICAL RECORD**
Description: **BATH ADDN & PATIO COVER**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 91 006 BP 123
Status: EXPIRED
Valuation: $4,578.00
Contractor Company:
Contractor Name: TRIPLE DELTA INC

ADJOINING PROPERTY FINDINGS

UNWIN DR

1862 UNWIN DR

Date:	**3/15/2016**
Permit Type:	
Description:	**KITCHEN REMODEL**
Permit Description:	**RES REMODEL**
Work Class:	
Proposed Use:	
Permit Number:	B1603-0079
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

Date:	**2/15/2006**
Permit Type:	**History Permit Plus**
Description:	**Annexation-part of 38-360-10**
Permit Description:	**Building**
Work Class:	All
Proposed Use:	History
Permit Number:	E06-0084
Status:	Approved
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **4/17/1990**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE WATER HEATER**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 90 004 BP 082
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: BRUNSON PLUMBING (DAHEL INC)

1878 UNWIN DR

Date: **11/24/2015**
Permit Type:
Description: **ROOF MOUNTED SOLAR/UPGRADE ELECTRICAL**

Permit Description: **SOLAR PANEL**
Work Class:
Proposed Use:
Permit Number: E1511-0046
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **9/21/2015**
Permit Type:
Description: **REMODEL EXISTING POOL**

Permit Description: **RES POOL SPA**
Work Class:
Proposed Use:
Permit Number: B1509-0132
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **6/5/2000**
Permit Type: **HISTORICAL RECORD**
Description: **ELECTRICAL FOR SPA**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 00 006 BP 030
Status: EXPIRED
Valuation: $300.00
Contractor Company:
Contractor Name: SELF

Date: **6/9/1995**
Permit Type: **HISTORICAL RECORD**
Description: **RE-ROOF - COMP**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 95 006 BP 052
Status: EXPIRED
Valuation: $2,804.00
Contractor Company:
Contractor Name: DUNSMUIR STATE ROOFING

1884 UNWIN DR

Date: **8/27/2008**
Permit Type:
Description: **RE-ROOF COMP**

Permit Description: **RES REROOF**
Work Class: COMPOSITION
Proposed Use:
Permit Number: B0808-0096
Status: ISSUED
Valuation: $6,000.00
Contractor Company:
Contractor Name: PETERSON, JUDY

ADJOINING PROPERTY FINDINGS

Date: **3/6/2007**
Permit Type: **SHED**
Description: **INSTALL 10 BY 20-TUFF SHED IN BACK YARD**

Permit Description:
Work Class: <none>
Proposed Use:
Permit Number: B0608-0117
Status: FINALED
Valuation: $5,761.00
Contractor Company:
Contractor Name: TUFF SHED

1900 UNWIN DR

Date: **4/28/2016**
Permit Type:
Description: **ELECTRICAL SERVICE CHANGEOUT**

Permit Description: **ELECTRICAL**
Work Class:
Proposed Use:
Permit Number: E1604-0049
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **12/16/2015**
Permit Type:
Description: **KITCHEN & BATH REMODEL; HVAC**

Permit Description: **RES REMODEL**
Work Class:
Proposed Use:
Permit Number: B1512-0091
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **10/17/2012**
Permit Type:
Description: **RE-ROOF COMP (TEAR OFF)**

Permit Description: **RES REROOF**
Work Class: COMPOSITION
Proposed Use:
Permit Number: B1210-0091
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **5/20/1994**
Permit Type: **HISTORICAL RECORD**
Description: **ELECT. FOR HOT TUB**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 94 005 BP 111
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: LARRY HICKS & SONS ELECTRIC

1904 UNWIN DR

Date: **5/29/2012**
Permit Type:
Description: **REPLACE PATIO DOOR; ATTIC INSULATION; DUCT SEALING**

Permit Description: **RES REMODEL**
Work Class:
Proposed Use:
Permit Number: B1205-0108
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

1908 UNWIN DR

Date:	**9/20/2001**
Permit Type:	**HISTORICAL RECORD**
Description:	**ELEC SERVICE CHANGE**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	01 009 BP 127
Status:	FINALED
Valuation:	$1,200.00
Contractor Company:	
Contractor Name:	MYLES DAVIS ELECTRIC

UNWIN DR # A

1890 UNWIN DR # A

Date:	**9/15/2005**
Permit Type:	**HISTORICAL RECORD**
Description:	**RE-ROOF, COMP, RE-ROOF, COMP RE-ROOF, COMP**
Permit Description:	
Work Class:	No change in Units
Proposed Use:	
Permit Number:	05 008 BP 293
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	SELF

ADJOINING PROPERTY FINDINGS

VALENCIA ST

1905 VALENCIA ST

Date:	**9/29/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**REPLACE 5 WINDOWS/1 PATIO DOOR**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	04 009 BP 280
Status:	FINALED
Valuation:	$3,644.00
Contractor Company:	
Contractor Name:	AMERICAN WINDOW SYSTEMS INC.

1906 VALENCIA ST

Date:	**11/28/2012**
Permit Type:	
Description:	**RE-ROOF COMP (TEAR OFF)**
Permit Description:	**RES REROOF**
Work Class:	
Proposed Use:	
Permit Number:	B1211-0095
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **6/21/2007**
Permit Type: **FURNACE AC**
Description: **REPLACE FURNACE & ADD A/C (93% EFF. & 14 SEER)**

Permit Description:
Work Class:
Proposed Use:
Permit Number: M0705-0024
Status: FINALED
Valuation: $13,400.00
Contractor Company:
Contractor Name: EICHLER, ROBERT AND CAROL

Date: **12/26/2002**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE 9 WINDOWS/2 PATIO DOOR**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 02 012 BP 200
Status: EXPIRED
Valuation: $6,108.00
Contractor Company:
Contractor Name: AMERICAN WINDOW SYSTEMS

1908 VALENCIA ST

Date: **7/12/2012**
Permit Type:
Description: **KITCHEN REMODEL; SOME ELECTRIC**

Permit Description: **RES REMODEL**
Work Class:
Proposed Use:
Permit Number: B1207-0043
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **6/26/2012**
Permit Type:
Description: **REROOF COMP**

Permit Description: **RES REROOF**
Work Class:
Proposed Use:
Permit Number: B1206-0137
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

1909 VALENCIA ST

Date: **2/8/2005**
Permit Type: **HISTORICAL RECORD**
Description: **F.P. COMPLETE MASON REBLD**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 05 002 BP 057
Status: FINALED
Valuation: $6,500.00
Contractor Company:
Contractor Name: EDBONN MASONARY CONTRACTING CO

Date: **2/7/2005**
Permit Type: **HISTORICAL RECORD**
Description: **RE-ROOF COMP**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 05 002 BP 034
Status: EXPIRED
Valuation: $5,725.00
Contractor Company:
Contractor Name: RANERI & LONG ROOFING COMPANY

ADJOINING PROPERTY FINDINGS

Date: **2/3/2005**
Permit Type: **HISTORICAL RECORD**
Description: **FURNACE**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 05 002 BP 020
Status: FINALED
Valuation: $1,300.00
Contractor Company:
Contractor Name: SELF

Date: **12/6/2001**
Permit Type: **HISTORICAL RECORD**
Description: **ELEC SERVICE CHANGE**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 01 012 BP 063
Status: FINALED
Valuation: $4,550.00
Contractor Company:
Contractor Name: MYLES DAVIS ELECTRIC

1910 VALENCIA ST

Date: **10/18/2016**
Permit Type:
Description: **R/R MAIN PANEL/ LIKE FOR LIKE**

Permit Description: **ELECTRICAL**
Work Class:
Proposed Use:
Permit Number: E1610-0017
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **10/18/2016**
Permit Type:
Description: **INSTALL ROOF MOUNTED PVC SYSTEM**

Permit Description: **SOLAR PANEL**
Work Class:
Proposed Use:
Permit Number: E1610-0018
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **2/1/2016**
Permit Type:
Description: **RE-ROOF COMP (TEAR OFF)**

Permit Description: **RES REROOF**
Work Class:
Proposed Use:
Permit Number: B1602-0002
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **11/29/2012**
Permit Type:
Description: **FURNACE (80% EFF)**

Permit Description: **FURNACE AC**
Work Class:
Proposed Use:
Permit Number: M1211-0025
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **7/26/2006**
Permit Type: **FIREPLACE**
Description: **INSTALL METAL RETRO-FIT WITH METAL CHASE TO REPLCE CHIMNEY**

Permit Description:
Work Class: Masonry
Proposed Use:
Permit Number: B0607-0058
Status: FINALED
Valuation: $6,588.00
Contractor Company:
Contractor Name: EDBONN MASONARY CONTRACTING CO

1911 VALENCIA ST

Date: **6/27/2000**
Permit Type: **HISTORICAL RECORD**
Description: **RE-ROOF COMP**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 00 006 BP 182
Status: FINALED
Valuation: $4,150.00
Contractor Company:
Contractor Name: STUBBS ROOFING INCORPORATED

Date: **6/27/2000**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE FURNACE, ADD AIR COND**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 00 006 BP 189
Status: FINALED
Valuation: $4,228.00
Contractor Company:
Contractor Name: BELL PRODUCTS INC

ADJOINING PROPERTY FINDINGS

Date: **4/21/2000**
Permit Type: **HISTORICAL RECORD**
Description: **FAMILY ROOM/BEDROOM/LAUNDRY AD**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 00 004 BP 125
Status: FINALED
Valuation: $39,672.00
Contractor Company:
Contractor Name: SELF

1913 VALENCIA ST

Date: **10/16/2001**
Permit Type: **HISTORICAL RECORD**
Description: **REPAIR REINFORCED FIREPLACE**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 01 010 BP 149
Status: FINALED
Valuation: $1,500.00
Contractor Company:
Contractor Name: DUNNE RIGHT REMODELING

ADJOINING PROPERTY FINDINGS

1915 VALENCIA ST

Date:	**10/6/1992**
Permit Type:	**HISTORICAL RECORD**
Description:	**TERMITE REPAIRS**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	92 010 BP 026
Status:	EXPIRED
Valuation:	$4,000.00
Contractor Company:	
Contractor Name:	SULLIVAN TERMITE CONTROL

1916 VALENCIA ST

Date:	**6/12/2015**
Permit Type:	
Description:	**RE-ROOF COMP (TEAR OFF)**
Permit Description:	**RES REROOF**
Work Class:	
Proposed Use:	
Permit Number:	B1506-0096
Status:	ISSUED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **2/2/2001**
Permit Type: **HISTORICAL RECORD**
Description: **SHOP ADDN/RESTRUCTURE ROOF/SHO**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 01 002 BP 043
Status: FINALED
Valuation: $35,000.00
Contractor Company:
Contractor Name: JAMES W ANDERSON, BLDING CONT

Date: **5/1/1990**
Permit Type: **HISTORICAL RECORD**
Description: **ADDITION & REMODEL**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 90 005 BP 008
Status: FINALED
Valuation: $14,280.00
Contractor Company:
Contractor Name: SELF

1917 VALENCIA ST

Date: **2/23/2017**
Permit Type:
Description: **Dig 5'x5' bell hole in sidewalk to insert new gas line**

Permit Description: **ENCROACHMENT**
Work Class: PW
Proposed Use:
Permit Number: EP1702-0042
Status: ISSUED W/COND
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **8/23/2012**
Permit Type:
Description: **BED & BATH ADDITION**

Permit Description: **RES ADDITION**
Work Class:
Proposed Use:
Permit Number: B1207-0060
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **8/5/1993**
Permit Type: **HISTORICAL RECORD**
Description: **TERMITE REPAIRS**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 93 008 BP 033
Status: FINALED
Valuation: $750.00
Contractor Company:
Contractor Name: ABLE CONSTRUCTION & HOME REPAI

1918 VALENCIA ST

Date: **10/6/2015**
Permit Type:
Description: **TEAR OFF EXISTING AND GO OVER WITH COMP/NEW GUTTERS**

Permit Description: **RES REROOF**
Work Class:
Proposed Use:
Permit Number: B1510-0023
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **10/18/1994**
Permit Type: **HISTORICAL RECORD**
Description: **RE-ROOF COMP**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 94 010 BP 122
Status: EXPIRED
Valuation: $3,150.00
Contractor Company:
Contractor Name: HOME ROOFING COMPANY

1919 VALENCIA ST

Date: **5/9/2016**
Permit Type:
Description: **Remove & Replace Sidewalk and Tree with Sidewalk CSP**

Permit Description: **ENCROACHMENT**
Work Class: PW
Proposed Use:
Permit Number: EP1606-0008
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **8/13/2015**
Permit Type:
Description: **RE-ROOF COMP (TEAR OFF)**

Permit Description: **RES REROOF**
Work Class:
Proposed Use:
Permit Number: B1508-0091
Status: ISSUED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **12/23/2014**
Permit Type:
Description: **REBUILD MASONRY CHIMNEY AT THE ROOF**

Permit Description: **FIREPLACE**
Work Class:
Proposed Use:
Permit Number: EQ1412-0100
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

Date: **10/9/2002**
Permit Type: **HISTORICAL RECORD**
Description: **PATIO COVER**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 02 010 BP 091
Status: EXPIRED
Valuation: $11,890.00
Contractor Company:
Contractor Name: ROGER LOFTFIELD

1922 VALENCIA ST

Date: **8/26/2015**
Permit Type:
Description: **KITCHEN REMODEL/UPDATE LIGHTING**

Permit Description: **RES REMODEL**
Work Class:
Proposed Use:
Permit Number: B1508-0195
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name:

ADJOINING PROPERTY FINDINGS

Date: **1/12/2006**
Permit Type: **HISTORICAL RECORD**
Description: **11 WINDOWS, STUCCO, 11 WINDOWS, STUCCO 11 WINDOWS, STUCCO**

Permit Description:
Work Class: No change in Units
Proposed Use:
Permit Number: 05 009 BP 051
Status: Finaled
Valuation: $19,025.00
Contractor Company:
Contractor Name: PRECISION PLASTERING

Date: **10/16/1992**
Permit Type: **HISTORICAL RECORD**
Description: **RE-ROOF - COMP**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 92 010 BP 078
Status: EXPIRED
Valuation: $3,600.00
Contractor Company:
Contractor Name: SILVERADO ROOFING

ADJOINING PROPERTY FINDINGS

VERBENA ST

3949 VERBENA ST

Date:	**12/28/2010**
Permit Type:	
Description:	**WATER HEATER**
Permit Description:	**WATER HEATER**
Work Class:	
Proposed Use:	
Permit Number:	P1012-0016
Status:	FINALED
Valuation:	$1,247.00
Contractor Company:	
Contractor Name:	BELL PRODUCTS INC, CONTRACTOR

Date:	**12/19/2003**
Permit Type:	**HISTORICAL RECORD**
Description:	**SINGLE FAMILY DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	03 012 BP 171
Status:	FINALED
Valuation:	$209,913.40
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

ADJOINING PROPERTY FINDINGS

3957 VERBENA ST

Date:	**12/19/2003**
Permit Type:	**HISTORICAL RECORD**
Description:	**SINGLE FAMILY DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	03 012 BP 172
Status:	FINALED
Valuation:	$191,655.20
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

3966 VERBENA ST

Date:	**5/6/2015**
Permit Type:	
Description:	**WATER HEATER CHANGEOUT**
Permit Description:	**WATER HEATER**
Work Class:	
Proposed Use:	
Permit Number:	P1505-0007
Status:	FINALED
Valuation:	$0.00
Contractor Company:	
Contractor Name:	

ADJOINING PROPERTY FINDINGS

Date: **3/16/2011**
Permit Type:
Description: **WATER HEATER**

Permit Description: **WATER HEATER**
Work Class:
Proposed Use:
Permit Number: WEB1103-0006
Status: FINALED
Valuation: $1,182.10
Contractor Company:
Contractor Name: Robert Kirtlink, CONTRACTOR

Date: **7/7/2005**
Permit Type: **HISTORICAL RECORD**
Description: **PATIO COVER**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 05 007 BP 037
Status: FINALED
Valuation: $2,805.00
Contractor Company:
Contractor Name: SIERRA PACIFIC MOBILE HOME SER

Date: **4/27/2004**
Permit Type: **HISTORICAL RECORD**
Description: **SINGLE FAMILY DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 04 004 BP 228
Status: FINALED
Valuation: $321,538.60
Contractor Company:
Contractor Name: BRADDOCK & LOGAN

ADJOINING PROPERTY FINDINGS

3969 VERBENA ST

Date:	**8/26/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**TRELLIS**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	04 008 BP 240
Status:	EXPIRED
Valuation:	$2,000.00
Contractor Company:	
Contractor Name:	SELF

Date:	**12/19/2003**
Permit Type:	**HISTORICAL RECORD**
Description:	**SINGLE FAMILY DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	03 012 BP 174
Status:	FINALED
Valuation:	$209,913.40
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

ADJOINING PROPERTY FINDINGS

3974 VERBENA ST

Date:	**6/21/2005**
Permit Type:	**HISTORICAL RECORD**
Description:	**GAS LINE FM METER TO POOL EQUI**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	05 006 BP 176
Status:	ISSUED
Valuation:	$500.00
Contractor Company:	
Contractor Name:	A & A LANDSCAPING

Date:	**4/27/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**SINGLE FAMILY DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	04 004 BP 225
Status:	FINALED
Valuation:	$227,496.60
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

Date:	**4/27/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**DETACHED GARAGE**
Permit Description:	
Work Class:	
Proposed Use:	Res Carpt/Garage
Permit Number:	04 004 BP 226
Status:	FINALED
Valuation:	$10,495.80
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

ADJOINING PROPERTY FINDINGS

3977 VERBENA ST

Date:	**4/26/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**SINGLE FAMILY DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	04 004 BP 213
Status:	FINALED
Valuation:	$191,655.20
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

3986 VERBENA ST

Date:	**4/27/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**SINGLE FAMILY DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	04 004 BP 223
Status:	FINALED
Valuation:	$321,538.60
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

ADJOINING PROPERTY FINDINGS

Date: **10/8/2003**
Permit Type: **HISTORICAL RECORD**
Description: **TEMP POWER POLE**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 03 010 BP 091
Status: EXPIRED
Valuation: $150.00
Contractor Company:
Contractor Name: M CONSTRUCTION & DESIGN

3989 VERBENA ST

Date: **4/26/2004**
Permit Type: **HISTORICAL RECORD**
Description: **SINGLE FAMILY DWELLING**

Permit Description:
Work Class:
Proposed Use: Det 1 Fam Dwl
Permit Number: 04 004 BP 214
Status: FINALED
Valuation: $208,192.00
Contractor Company:
Contractor Name: BRADDOCK & LOGAN

Date: **1/28/2004**
Permit Type: **HISTORICAL RECORD**
Description: **TEMP POWER POLE**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 04 001 BP 165
Status: FINALED
Valuation: $200.00
Contractor Company:
Contractor Name: M CONSTRUCTION & DESIGN

ADJOINING PROPERTY FINDINGS

3994 VERBENA ST

Date:	**4/27/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**SINGLE FAMILY DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	04 004 BP 221
Status:	FINALED
Valuation:	$227,496.60
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

Date:	**4/27/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**DETACHED GARAGE**
Permit Description:	
Work Class:	
Proposed Use:	Res Carpt/Garage
Permit Number:	04 004 BP 222
Status:	FINALED
Valuation:	$10,495.80
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

Date:	**4/28/2003**
Permit Type:	**HISTORICAL RECORD**
Description:	**TEMP POWER POLE/JOB TRAILER**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	03 004 BP 219
Status:	FINALED
Valuation:	$875.00
Contractor Company:	
Contractor Name:	POWER PLUS

ADJOINING PROPERTY FINDINGS

3997 VERBENA ST

Date:	**5/4/2005**
Permit Type:	**HISTORICAL RECORD**
Description:	**6 FT FENCE WITH 2 FT LATTACE**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	05 005 BP 020
Status:	FINALED
Valuation:	$1,500.00
Contractor Company:	
Contractor Name:	WINE VALLEY LANDSCAPING INC

Date:	**4/27/2004**
Permit Type:	**HISTORICAL RECORD**
Description:	**SINGLE FAMILY DWELLING**
Permit Description:	
Work Class:	
Proposed Use:	Det 1 Fam Dwl
Permit Number:	04 004 BP 220
Status:	FINALED
Valuation:	$191,655.20
Contractor Company:	
Contractor Name:	BRADDOCK & LOGAN

ADJOINING PROPERTY FINDINGS

VIA LA PAZ

4011 VIA LA PAZ

Date:	**3/26/2001**
Permit Type:	**HISTORICAL RECORD**
Description:	**DEMO FP/COMPLETE MASONRY BUILD**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	01 003 BP 267
Status:	FINALED
Valuation:	$6,400.00
Contractor Company:	
Contractor Name:	SELF

Date:	**8/13/1996**
Permit Type:	**HISTORICAL RECORD**
Description:	**RE-ROOF COMP**
Permit Description:	
Work Class:	
Proposed Use:	No change in Units
Permit Number:	96 008 BP 073
Status:	FINALED
Valuation:	$7,745.00
Contractor Company:	
Contractor Name:	OAK KNOLL ROOFING

ADJOINING PROPERTY FINDINGS

Date: **7/16/1996**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE FURNACE, ADD AIR COND**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 96 007 BP 089
Status: FINALED
Valuation: $0.00
Contractor Company:
Contractor Name: BELL PRODUCTS INC

4027 VIA LA PAZ

Date: **4/8/2004**
Permit Type: **HISTORICAL RECORD**
Description: **BATHROOM REMODEL**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 04 004 BP 071
Status: EXPIRED
Valuation: $1,500.00
Contractor Company:
Contractor Name: SELF

Date: **12/19/2003**
Permit Type: **HISTORICAL RECORD**
Description: **ELEC SERVICE CHANGE**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 03 012 BP 175
Status: EXPIRED
Valuation: $900.00
Contractor Company:
Contractor Name: SELF

ADJOINING PROPERTY FINDINGS

Date: **6/24/2003**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE 3 BATHROOM WINDOWS**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 03 006 BP 244
Status: FINALED
Valuation: $712.57
Contractor Company:
Contractor Name: SELF

Date: **8/28/2002**
Permit Type: **HISTORICAL RECORD**
Description: **REPLACE 7 WINDOWS**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 02 008 BP 230
Status: FINALED
Valuation: $4,700.00
Contractor Company:
Contractor Name: SELF

Date: **5/9/2001**
Permit Type: **HISTORICAL RECORD**
Description: **RE-ROOF - COMP (NEW PLY)**

Permit Description:
Work Class:
Proposed Use: No change in Units
Permit Number: 01 005 BP 096
Status: EXPIRED
Valuation: $4,000.00
Contractor Company:
Contractor Name: SELF

ADJOINING PROPERTY FINDINGS

4036 VIA LA PAZ

Date:	**4/21/2006**	
Permit Type:	**RES NEW BLDG**	
Description:	**DWELLING- new address 4036 Via La Paz**	**PLNS DESTR**

Permit Description:	
Work Class:	RESIDENTIAL--NEW
Proposed Use:	
Permit Number:	B0509-0021
Status:	FINALED
Valuation:	$183,470.40
Contractor Company:	
Contractor Name:	GRIFFIN-MOLINARI BUILDING CONS

GLOSSARY

General Building Department concepts

- **ICC:** The International Code Council. The governing body for the building/development codes used by all jurisdictions who've adopted the ICC guidelines. MOST of the US has done this. Canada, Mexico, and other countries use ICC codes books and guides as well. There are a few states who have added guidelines to the ICC codes to better fit their needs. For example, California has added seismic retrofit requirements for most commercial structures.
- **Building Department (Permitting Authority, Building Codes, Inspections Department, Building and Inspections):** This is the department in a jurisdiction where an owner or contractor goes to obtain permits and inspections for building, tearing down, remodeling, adding to, re-roofing, moving or otherwise making changes to any structure, Residential or Commercial.
- **Jurisdiction:** This is the geographic area representing the properties over which a Permitting Authority has responsibility.
- **GC:** General Contractor. Usually the primary contractor hired for any Residential or Commercial construction work.
- **Sub:** Subordinate contracting companies or subcontractors. Usually a "trades" contractor working for the GC. These contractors generally have an area of expertise in which they are licensed like Plumbing, Electrical, Heating and Air systems, Gas Systems, Pools etc. (called "trades").
- **Journeymen:** Sub contractors who have their own personal licenses in one or more trades and work for different contracting companies, wherever they are needed or there is work.
- **HVAC (Mechanical, Heating & Air companies):** HVAC = Heating, Ventilation, and Air Conditioning.
- **ELEC (Electrical, TempPole, TPole, TPower, Temporary Power, Panel, AMP Change, Power Release):** Electrical permits can be pulled for many reasons. The most common reason is to increase the AMPs of power in an electrical power panel. This requires a permit in almost every jurisdiction. Other commons reason for Electrical permits is to insert a temporary power pole at a new construction site. Construction requires electricity, and in a new development, power has yet to be run to the lot. The temporary power pole is usually the very first permit pulled for new development. The power is released to the home owner when construction is complete and this sometimes takes the form of a Power Release permit or inspection.
- **"Pull" a permit:** To obtain and pay for a building permit.
- **CBO:** Chief Building Official
- **Planning Department:** The department in the development process where the building /structural plans are reviewed for their completeness and compliance with building codes
- **Zoning Department:** The department in the development process where the site plans are reviewed for their compliance with the regulations associated with the zoning district in which they are situated.
- **Zoning District:** A pre-determined geographic boundary within a jurisdiction where certain types of structures are permitted / prohibited. Examples are Residential structure, Commercial/Retail structures, Industrial/Manufacturing structures etc. Each zoning district has regulations associated with it like the sizes of the lots, the density of the structures on the lots, the number of parking spaces required for certain types of structures on the lots etc.
- **PIN (TMS, GIS ID, Parcel#):** Property Identification Number and Tax Map System number.
- **State Card (Business license):** A license card issued to a contractor to conduct business.
- **Building Inspector (Inspector):** The inspector is a building department employee that inspects building construction for compliance to codes.
- **C.O.:** Certificate of Occupancy. This is the end of the construction process and designates that the owners now have permission to occupy a structure after its building is complete. Sometimes also referred to as a Certificate of Compliance.

GLOSSARY

Permit Content Definitions

- Permit Number: The alphanumerical designation assigned to a permit for tracking within the building department system. Sometimes the permit number gives clues to its role, e.g. a "PL" prefix may designate a plumbing permit.
- Description: A field on the permit form that allows the building department to give a brief description of the work being done. More often than not, this is the most important field for EP's to find clues to the prior use(s) of the property.
- Permit Type: Generally a brief designation of the type of job being done. For example BLDG-RES, BLDG-COM, ELEC, MECH etc.

Sample Building Permit Data

Date: Nov 09, 2000
Permit Type: Bldg -
New Permit Number: 101000000405
Status: Valuation: $1,000,000.00
Contractor Company: OWNER-BUILDER
Contractor Name:

Description: New one store retail (SAV-ON) with drive-thru pharmacy. Certificate of Occupancy.

Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558

Inquiry Number: 5147412.6
December 29, 2017

The EDR Property Tax Map Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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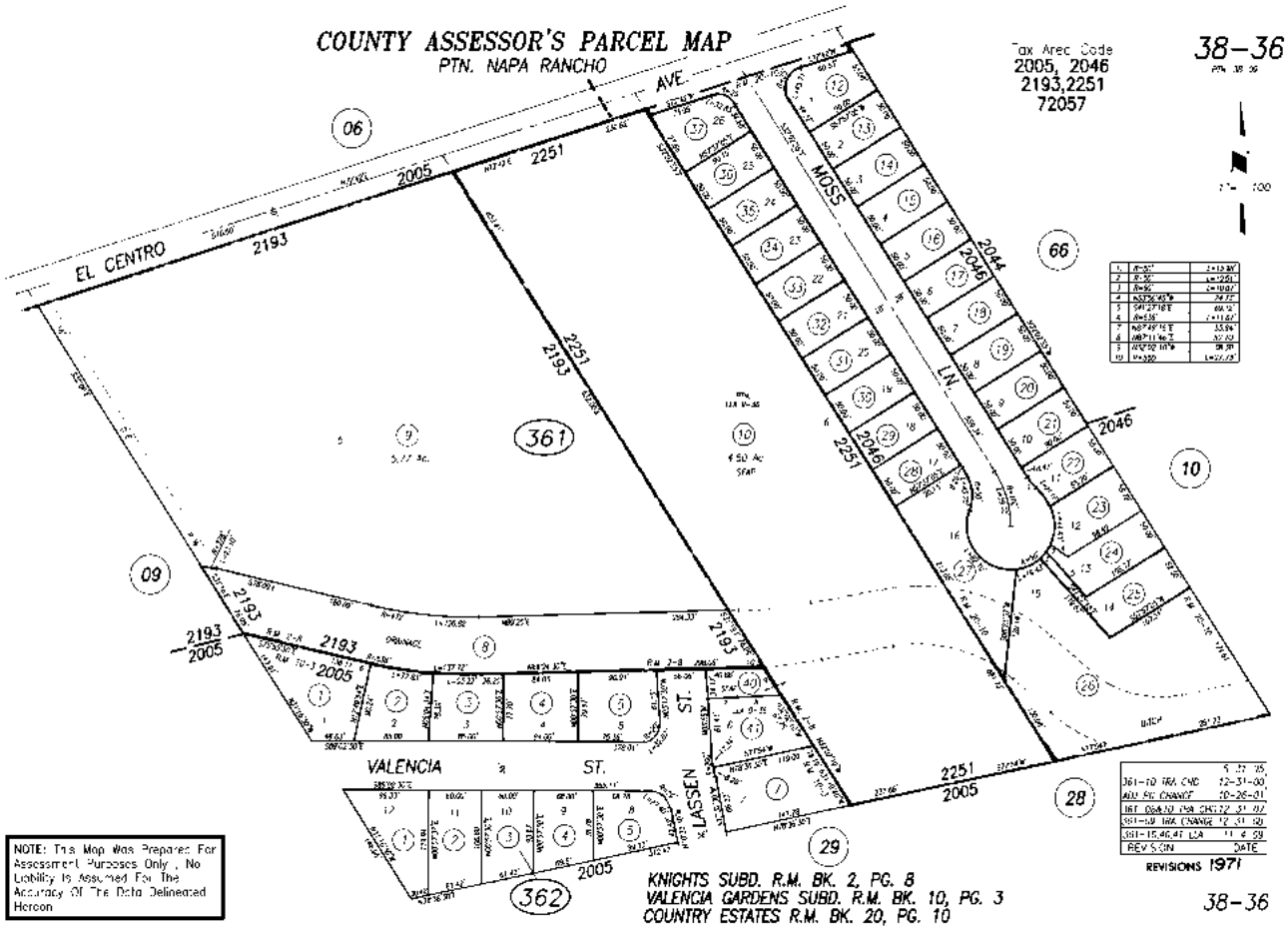
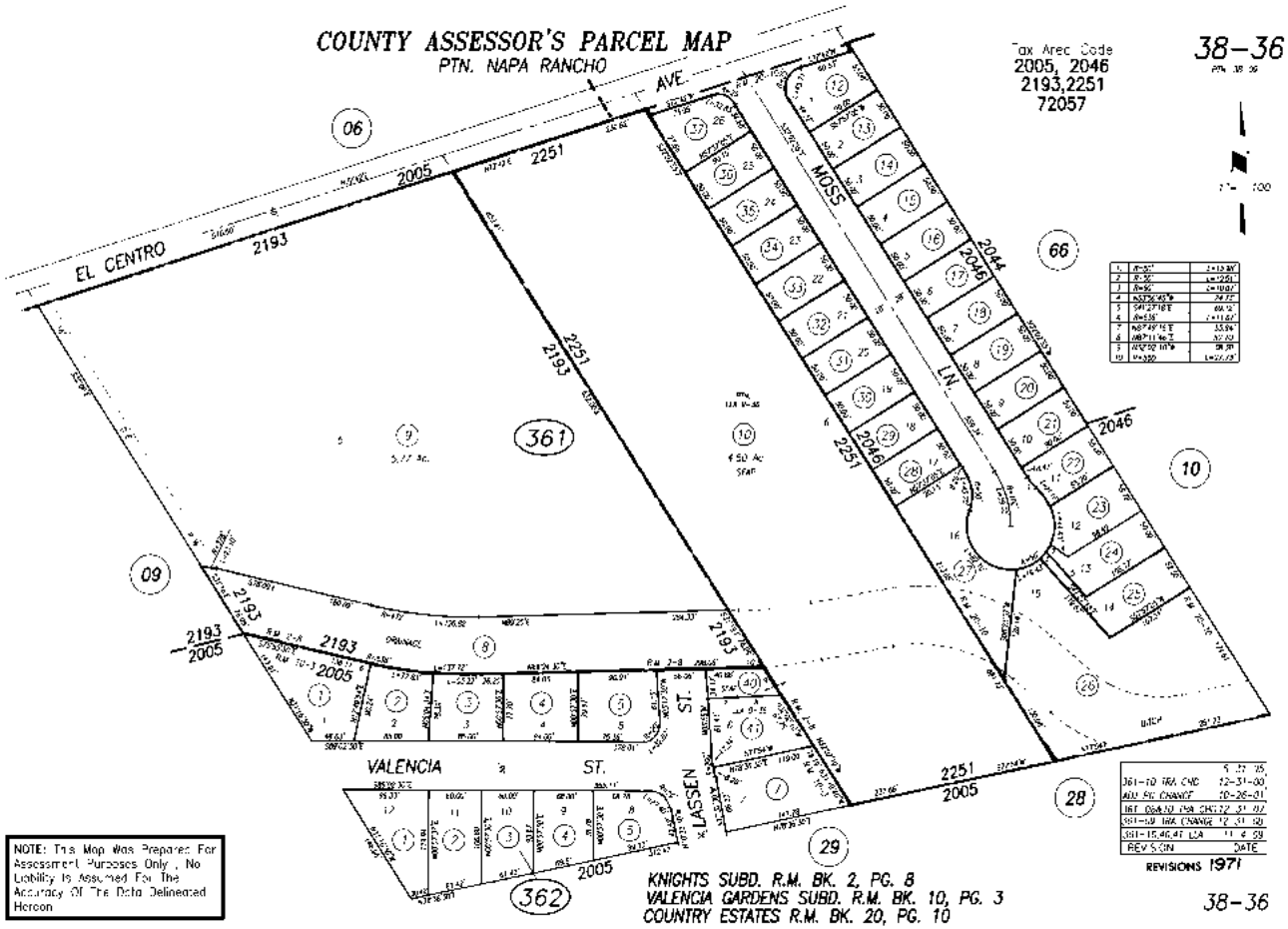

COUNTY ASSESSOR'S PARCEL MAP
PTN. NAPA RANCHO
38-36
Tax Area Code
2005, 2046
2193,2251
72057
EL CENTRO AVE.
MOSS LN.
VALENCIA ST.
LASSEN ST.
361
362
NOTE: This Map Was Prepared For Assessment Purposes Only , No Liability Is Assumed For The Accuracy Of The Data Delineated Hereon
KNIGHTS SUBD. R.M. BK. 2, PG. 8
VALENCIA GARDENS SUBD. R.M. BK. 10, PG. 3
COUNTRY ESTATES R.M. BK. 20, PG. 10
REVISIONS 1971
38-36


COUNTY ASSESSOR'S PARCEL MAP
PTN. NAPA RANCHO
38-36
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ST. KLASSEN
06
09
10
28
29
66
361
362
2193
2251
2005
2046
2044
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KNIGHTS SUBD. R.M. BK. 2, PG. 8
VALENCIA GARDENS SUBD. R.M. BK. 10, PG. 3
COUNTRY ESTATES R.M. BK. 20, PG. 10
REVISIONS 1971
38-36

APPENDIX B

Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558

Inquiry Number: 5147412.3
December 29, 2017

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

12/29/17

Site Name:

Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558
EDR Inquiry # 5147412.3

Client Name:

CKG Environmental
P.O. Box 246
Saint Helena, CA 94574
Contact: Chris Kennedy

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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # EA70-4C0B-BC7F

PO # NA

Project Biale Vineyards

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: EA70-4C0B-BC7F

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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Biale Vineyards

1583 & 1657 El Centro Avenue

Napa, CA 94558

Inquiry Number: 5147412.12

December 29, 2017

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

12/29/17

Site Name:

Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558
EDR Inquiry # 5147412.12

Client Name:

CKG Environmental
P.O. Box 246
Saint Helena, CA 94574
Contact: Chris Kennedy

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Search Results:

Year	Scale	Details	Source
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1993	1"=500'	Acquisition Date: July 06, 1993	USGS/DOQQ
1982	1"=500'	Flight Date: July 08, 1982	USDA
1973	1"=500'	Flight Date: September 27, 1973	USGS
1968	1"=500'	Flight Date: April 20, 1968	USGS
1959	1"=500'	Flight Date: March 24, 1959	USDA
1947	1"=500'	Flight Date: March 01, 1947	USGS

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INQUIRY #: 5147412.12
YEAR: 2012
= 500'
N
EDR

INQUIRY #: 5147412.12
YEAR: 2010
= 500'
N
EDR

INQUIRY #: 5147412.12
YEAR: 2009
= 500'
N
EDR

INQUIRY #: 5147412.12
YEAR: 2006
= 500'
N
EDR

INQUIRY #: 5147412.12
YEAR: 2005
= 500'
N
EDR

INQUIRY #: 5147412.12

YEAR: 1993

= 500'

N

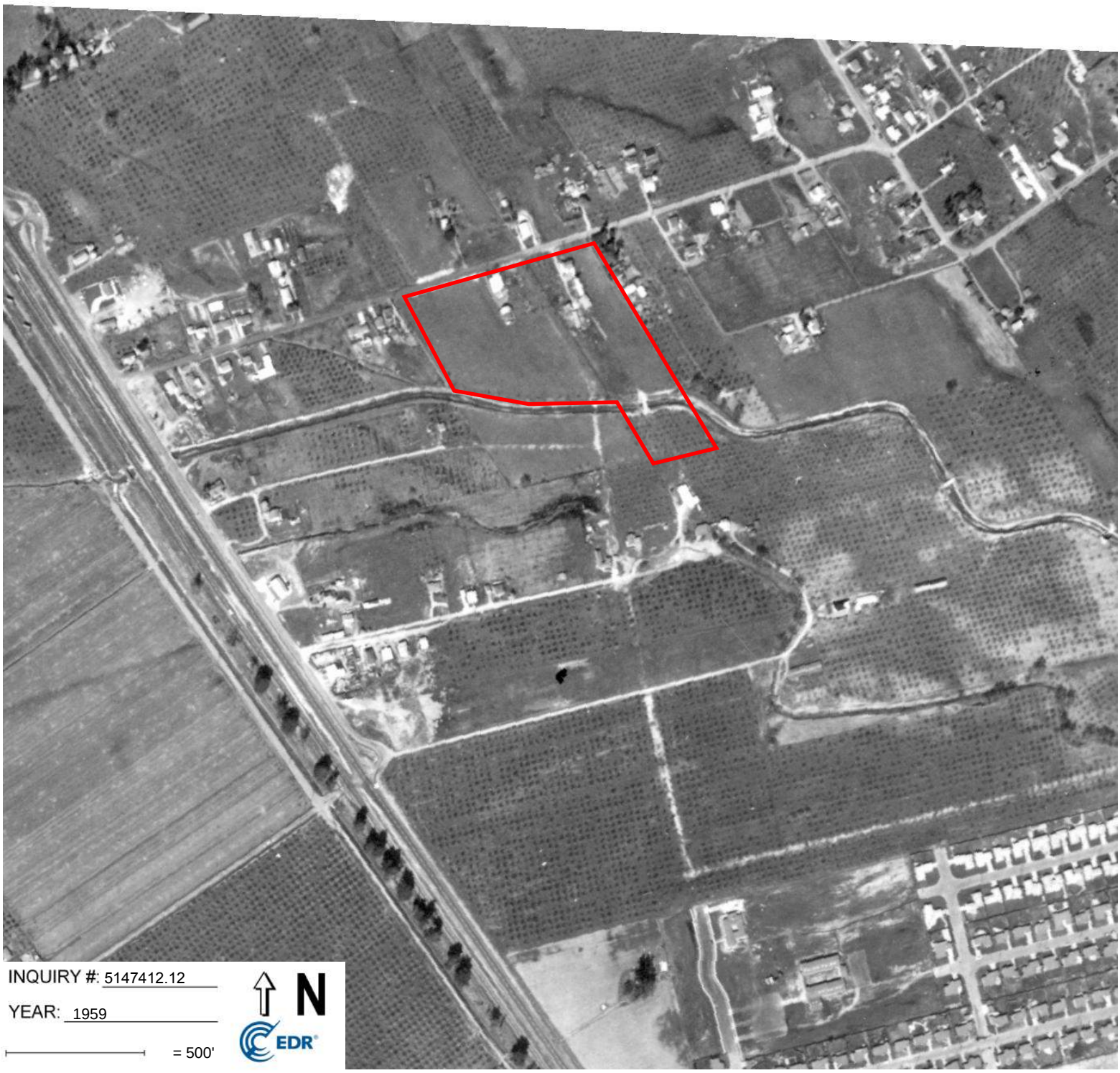
EDR

INQUIRY #: 5147412.12
YEAR: 1982
= 500'
N
EDR

INQUIRY #: 5147412.12
YEAR: 1973
= 500'
N
EDR

INQUIRY #: 5147412.12
YEAR: 1968
= 500'
N
EDR

[redacted]



INQUIRY #: 5147412.12

YEAR: 1959

= 500'

N

EDR

INQUIRY #: 5147412.12
YEAR: 1947
= 500'
N
EDR

Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558

Inquiry Number: 5147412.4
December 29, 2017

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

12/29/17

Site Name:

Biale Vineyards
1583 & 1657 El Centro Avenue
Napa, CA 94558
EDR Inquiry # 5147412.4

Client Name:

CKG Environmental
P.O. Box 246
Saint Helena, CA 94574
Contact: Chris Kennedy

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by CKG Environmental were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: Biale Vineyards

Coordinates:

Latitude:	38.335022 38° 20' 6" North
Longitude:	-122.31467 -122° 18' 53" West
UTM Zone:	Zone 10 North
UTM X Meters:	559895.71
UTM Y Meters:	4243209.66
Elevation:	70.87' above sea level

Maps Provided:

2012
1980
1973
1968
1951
1942
1902

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

Napa
2012
7.5-minute, 24000

1980 Source Sheets

Napa
1980
7.5-minute, 24000
Aerial Photo Revised 1978

1973 Source Sheets

Napa
1973
7.5-minute, 24000
Aerial Photo Revised 1973

1968 Source Sheets

Napa
1968
7.5-minute, 24000
Aerial Photo Revised 1968

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1951 Source Sheets

Napa
1951
7.5-minute, 24000
Aerial Photo Revised 1948

1942 Source Sheets

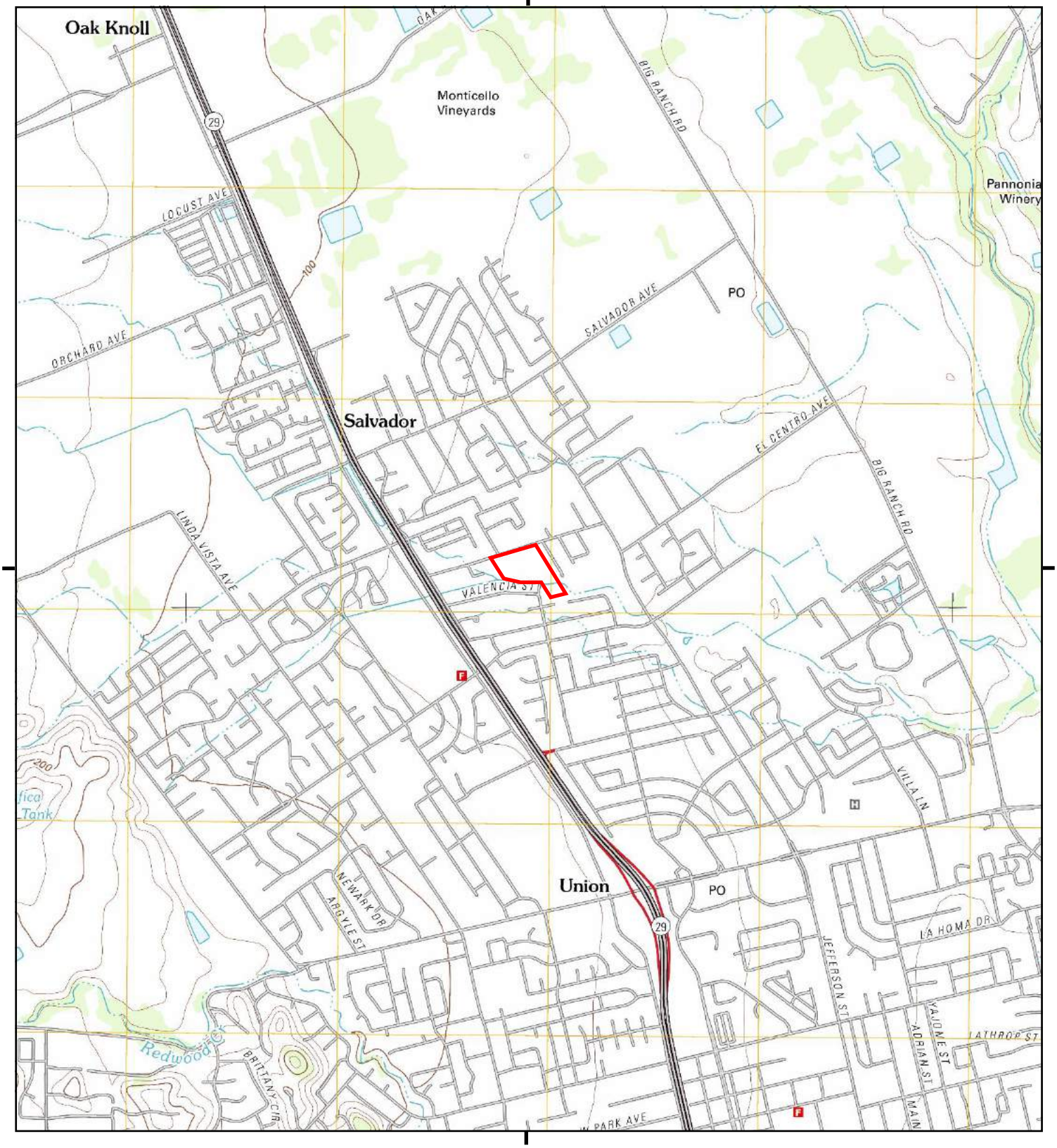
SONOMA
1942
15-minute, 50000

1902 Source Sheets

Napa
1902
30-minute, 125000

Historical Topo Map

2012



This report includes information from the following map sheet(s).

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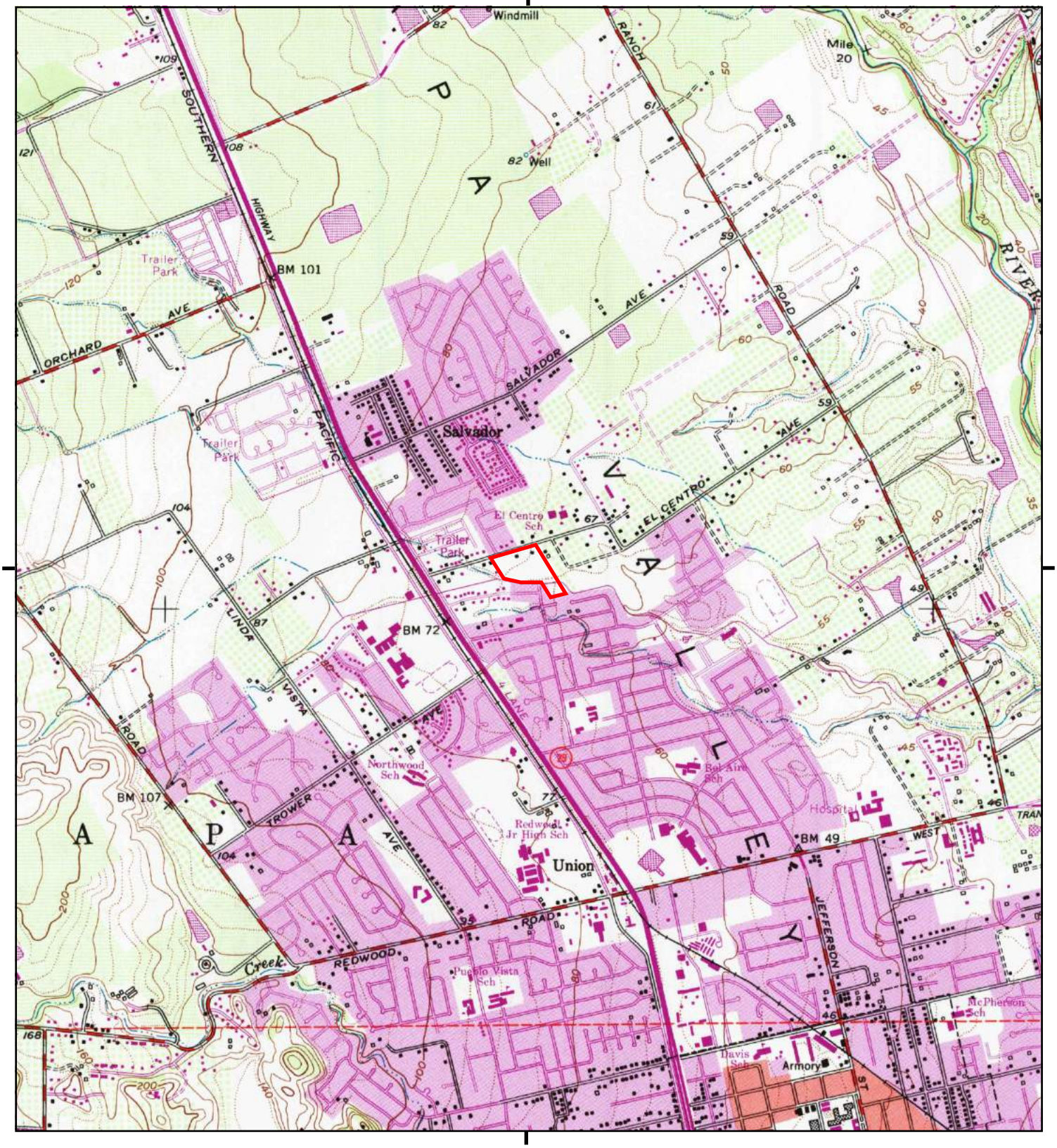
NW N NE
W E
SW S SE

TP, Napa, 2012, 7.5-minute

SITE NAME: Biale Vineyards
ADDRESS: 1583 & 1657 El Centro Avenue
Napa, CA 94558
CLIENT: CKG Environmental

N



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W E
SW S SE

TP, Napa, 1980, 7.5-minute

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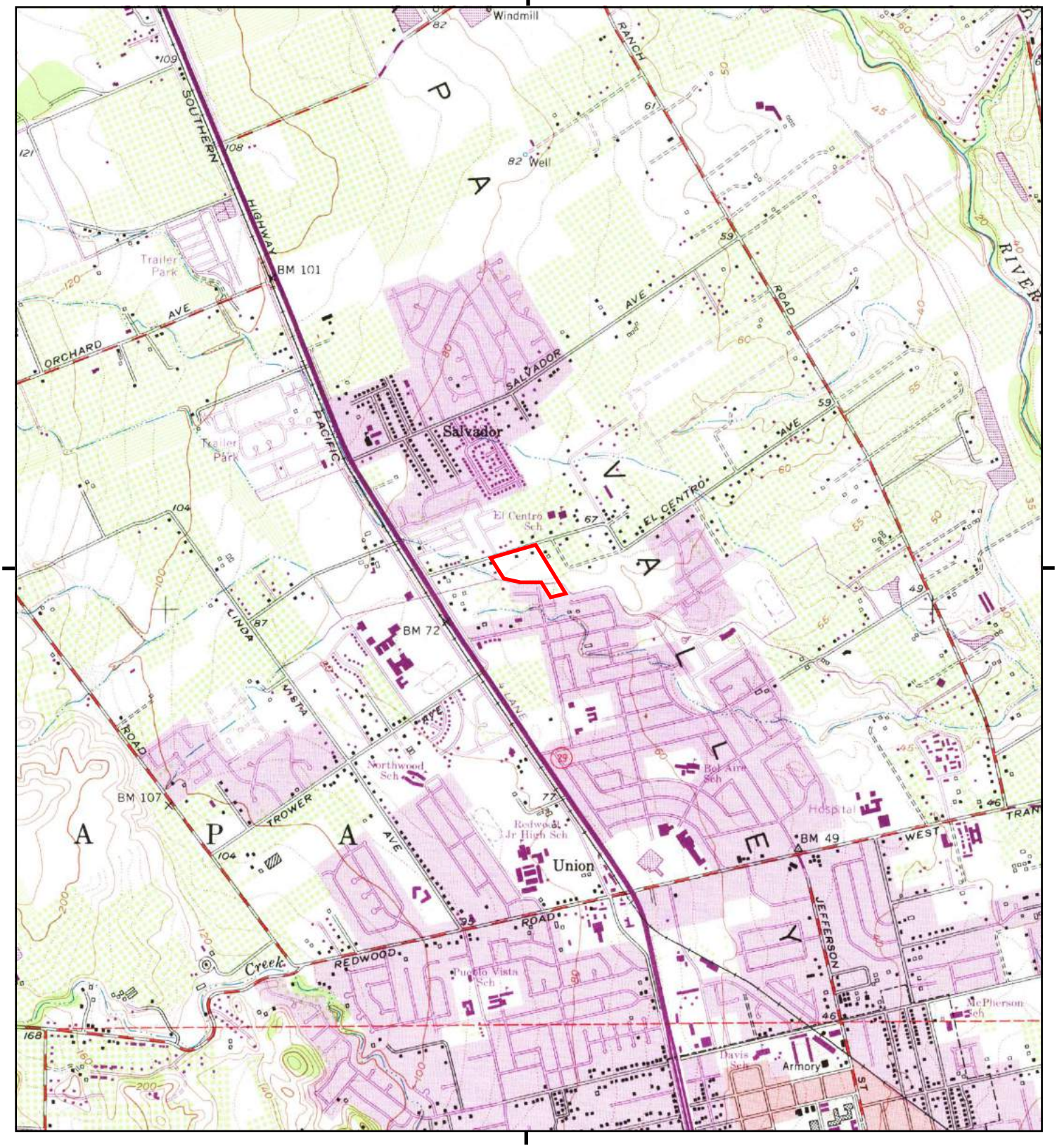
ADDRESS: 1583 & 1657 El Centro Avenue
Napa, CA 94558
CLIENT: CKG Environmental

N

Historical Topo Map

1973



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W E
SW S SE

TP, Napa, 1973, 7.5-minute

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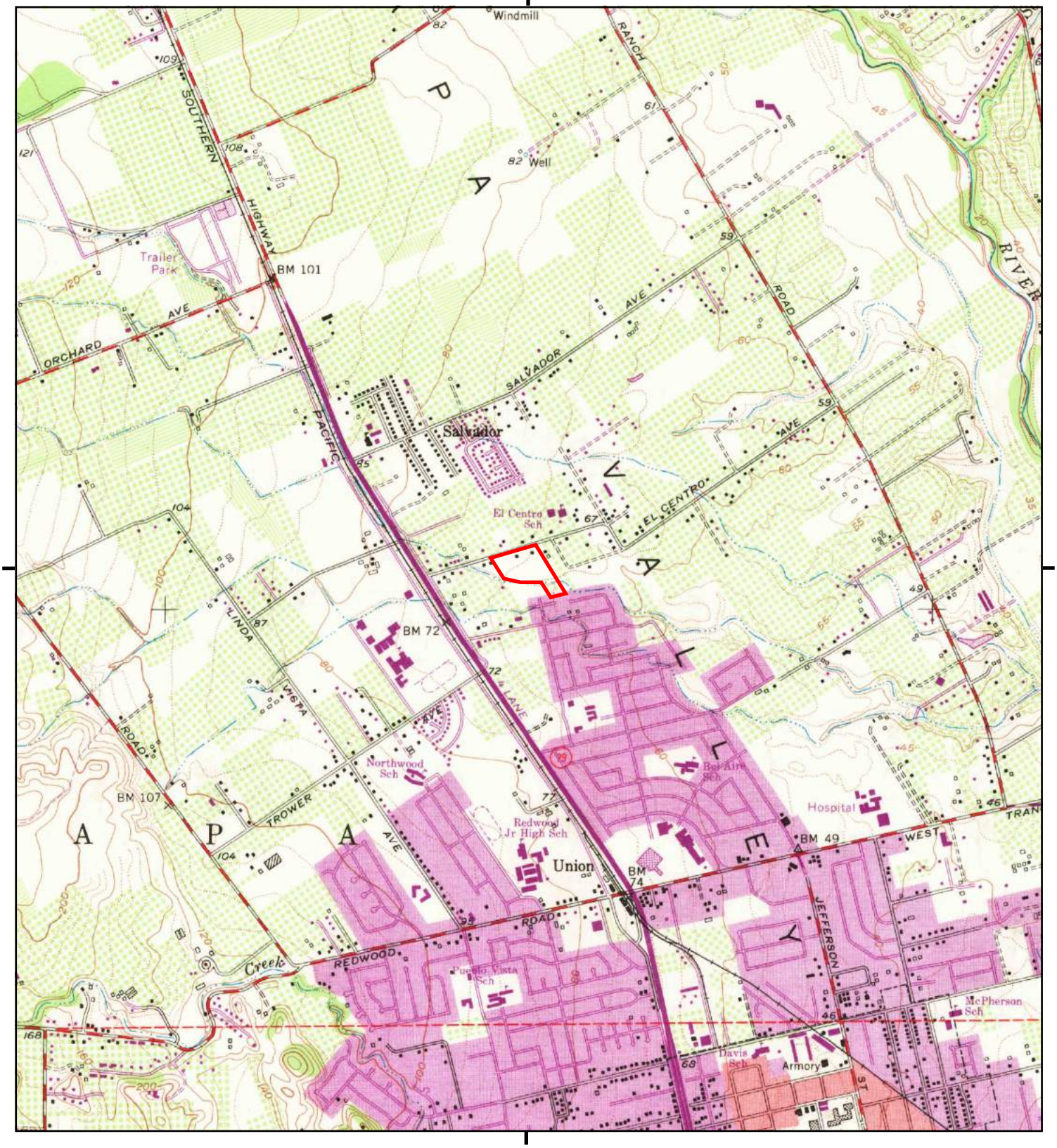
ADDRESS: 1583 & 1657 El Centro Avenue
Napa, CA 94558
CLIENT: CKG Environmental

N

Historical Topo Map

1968



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W E
SW S SE

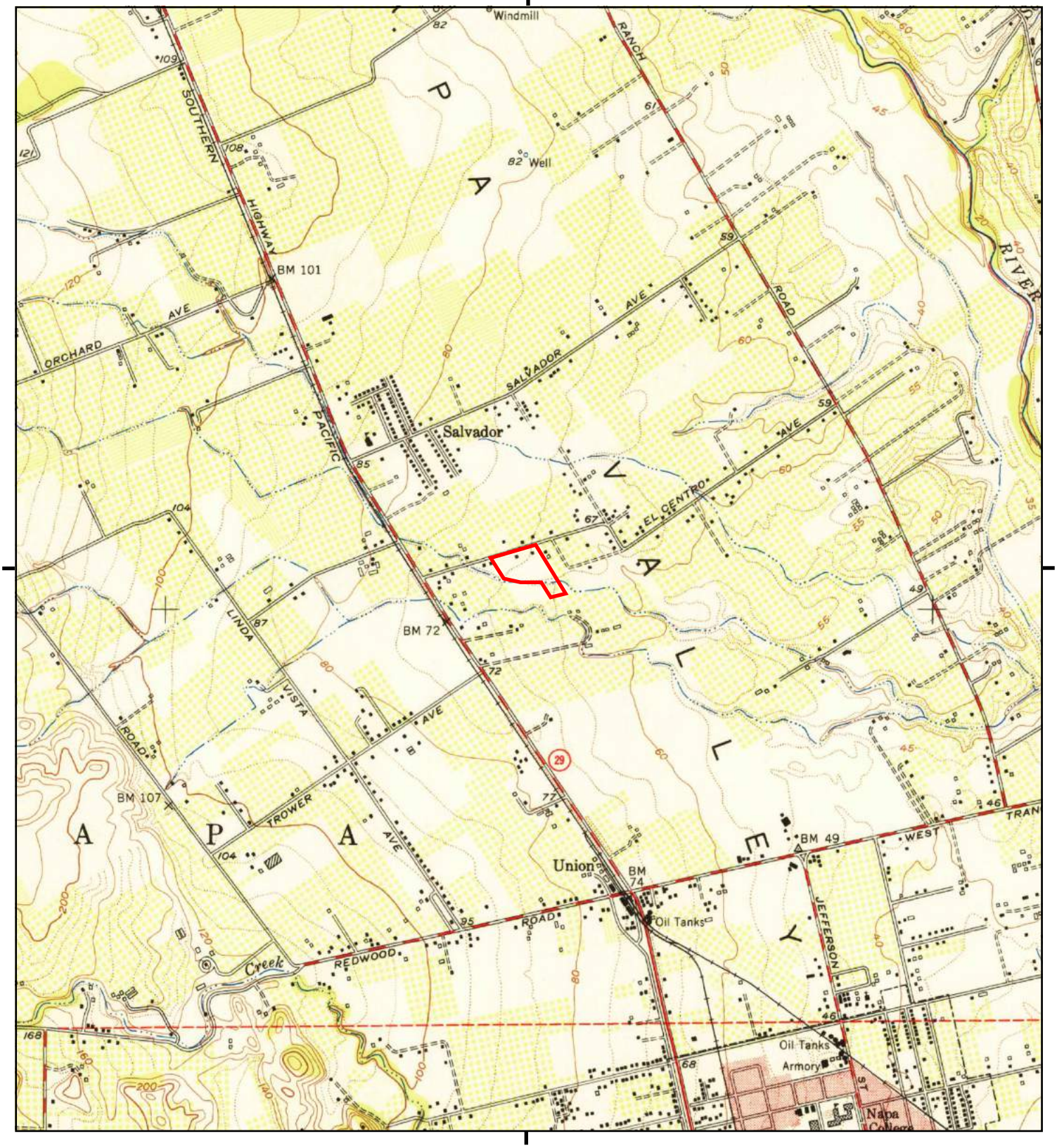
TP, Napa, 1968, 7.5-minute

SITE NAME: Biale Vineyards
ADDRESS: 1583 & 1657 El Centro Avenue
Napa, CA 94558
CLIENT: CKG Environmental

N

Historical Topo Map

1951



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W E
SW S SE

TP, Napa, 1951, 7.5-minute

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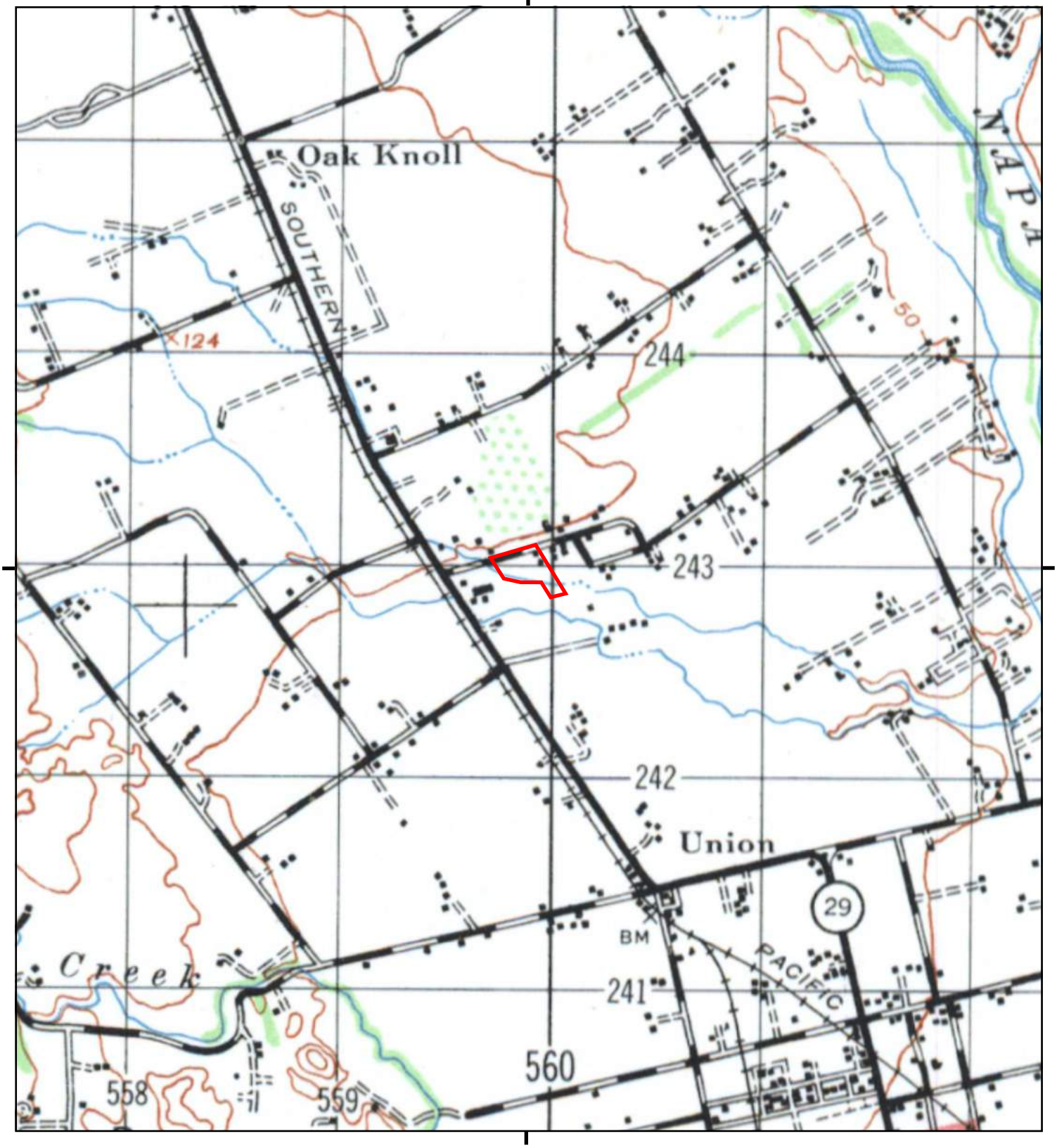
ADDRESS: 1583 & 1657 El Centro Avenue
Napa, CA 94558
CLIENT: CKG Environmental

N



This report includes information from the following map sheet(s).

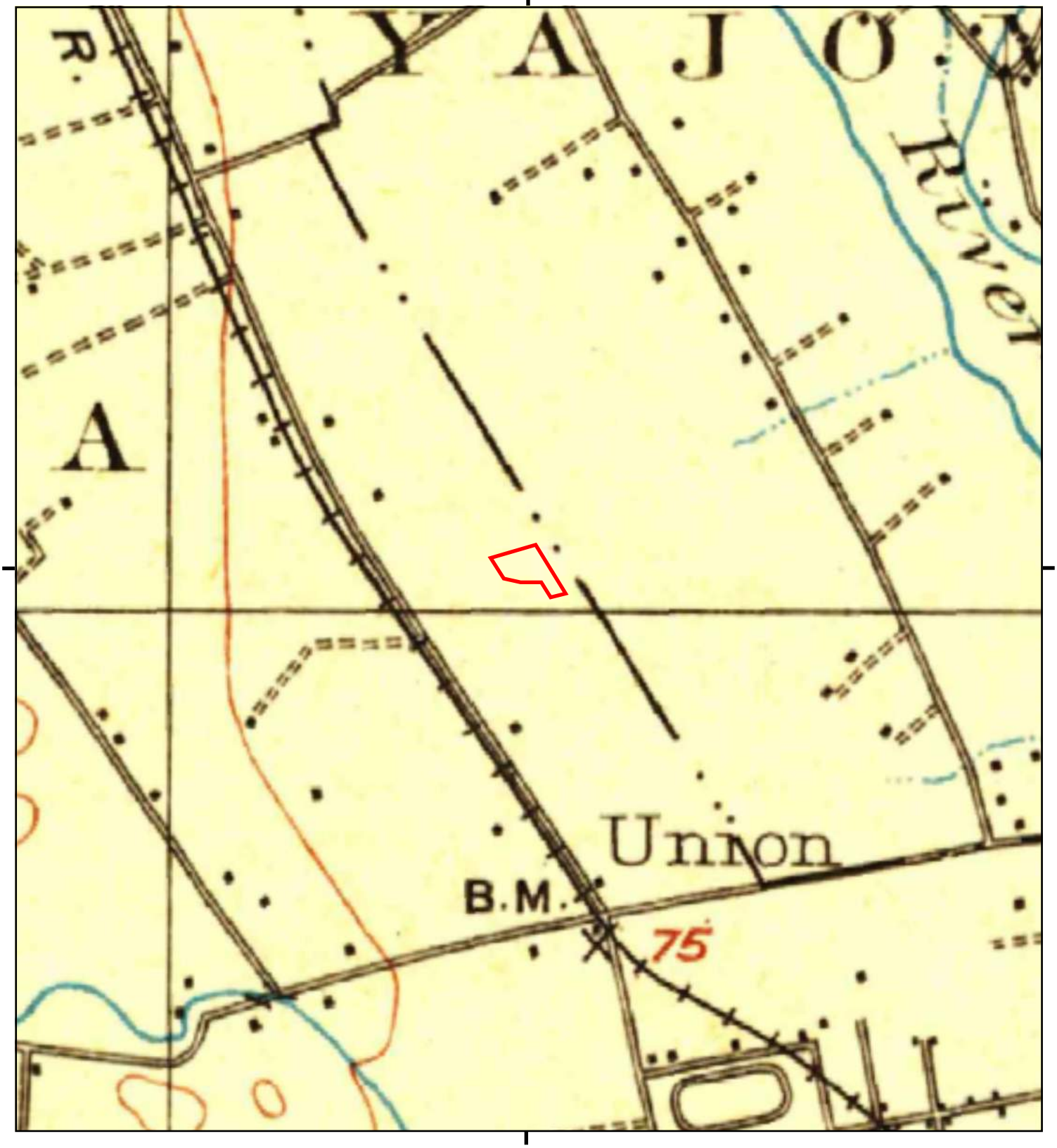
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, SONOMA, 1942, 15-minute

SITE NAME: Biale Vineyards
ADDRESS: 1583 & 1657 El Centro Avenue
Napa, CA 94558
CLIENT: CKG Environmental

N



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NW N NE
W E
SW S SE

TP, Napa, 1902, 30-minute

SITE NAME: Biale Vineyards
ADDRESS: 1583 & 1657 El Centro Avenue
Napa, CA 94558
CLIENT: CKG Environmental

N

APPENDIX C

APPENDIX C PHOTOGRAPHIC LOG
1583 AND 1657 ELCENTRO AVENUE
NAPA, CALIFORNIA

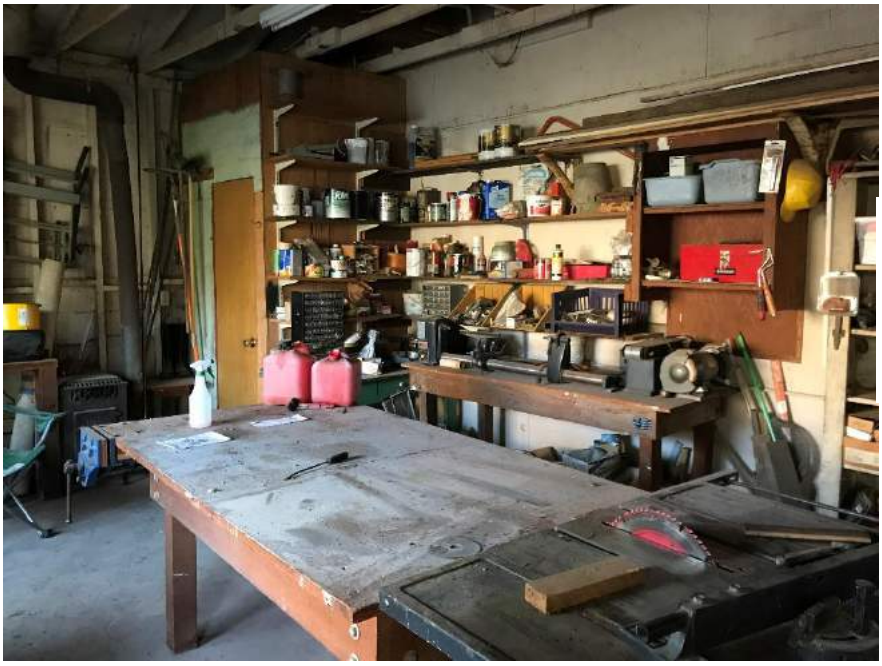
Photograph 1

Facing the single family residence at 1657 El Centro Avenue, facing southeast.

Photograph 2

The patio area behind the main residence. The water supply well is located in the shed to the left with the white door.

APPENDIX C PHOTOGRAPHIC LOG
1583 AND 1657 ELCENTRO AVENUE
NAPA, CALIFORNIA



Photograph 3

Part of the interior of the winery equipment building/garage which is behind the residence.

Photograph 4

Typical vineyard equipment storage in the winery equipment building/garage

APPENDIX C PHOTOGRAPHIC LOG
1583 AND 1657 ELCENTRO AVENUE
NAPA, CALIFORNIA

Photograph 5

Another workshop area with some small quantities of vehicle maintenance supplies.

Photograph 6

Typical equipment storage in the winery equipment storage building/garage. The southern part of the building has dirt floors

APPENDIX C PHOTOGRAPHIC LOG
1583 AND 1657 ELCENTRO AVENUE
NAPA, CALIFORNIA

Photograph 7

Typical storage of small quantities of vehicle greases and some agricultural products.

Photograph 8

Two aboveground fuel storage tanks containing gasoline and diesel, in secondary containment. The tanks have been in this vicinity since possibly the 1950s.

APPENDIX C PHOTOGRAPHIC LOG
1583 AND 1657 ELCENTRO AVENUE
NAPA, CALIFORNIA

Photograph 9

Part of a former livestock (chickens and horses) barn with typical farm equipment storage

Photograph 10

A newer metal sided shed adjacent to the old livestock shed; used to store agricultural chemicals. Typically, only small volumes are kept on site because they are used as soon as they are purchased.

APPENDIX C PHOTOGRAPHIC LOG
1583 AND 1657 ELCENTRO AVENUE
NAPA, CALIFORNIA

Photograph 11

General storage behind the former livestock shed.

Photograph 12

Looking north from the side of the livestock shed toward the residence and outdoor equipment storage. To the left is a pile of dead grape vines.

APPENDIX C PHOTOGRAPHIC LOG
1583 AND 1657 ELCENTRO AVENUE
NAPA, CALIFORNIA

Photograph 13

Looking south from the approximate center of the Property at the road between vineyard blocks.

Photograph 14

Looking north from the south side of the vineyard, north of Salvador Creek.

APPENDIX C PHOTOGRAPHIC LOG
1583 AND 1657 ELCENTRO AVENUE
NAPA, CALIFORNIA

Photograph 15

Salvador Creek facing southwest on the southern part of the Property.

Photograph 16

Looking south at the vineyard south of Salvador Creek.

APPENDIX C PHOTOGRAPHIC LOG
1583 AND 1657 ELCENTRO AVENUE
NAPA, CALIFORNIA

Photograph 17

The interior of the water well shed just south of the residence.

APPENDIX D

CHRISTINA J. KENNEDY, RG

M.S., and B.S. Geology, University of Alberta, Canada (1986, 1984)
40-hour OSHA training
Registered Geologist No. 5077
29 years experience

Christina Kennedy provides a rare combination of technical expertise, management experience, and business acumen tied to a no nonsense problem solving approach. With over 25 years professional experience Ms. Kennedy has brought her talents from competence in field explorations, data interpretation and writing, to managing complex projects, groups of professionals, managing an office, and developing her own consulting firm. As a result Ms. Kennedy understands the big picture of a client's objectives and needs so that the most effective assessment or remediation program can be developed. The following summarizes highlights from Ms. Kennedy's full resume that are pertinent to the City of Petaluma's needs with regard to Brownfield's assessments.

As president and owner of a small consulting firm Ms. Kennedy enjoys the challenges and rewards of operating a small business and providing superior consulting services to her clients. Projects range from property transaction support with soil and groundwater remediation for a large glass container manufacturer, to Phase I investigations, to public health outreach. CKG's clients appreciate the close professional relationship characterized by clear project management and technical services that a small highly experienced team can provide.

Ms. Kennedy's professional expertise in project management includes property redevelopment work, property transfers, hazardous materials investigations and remediation, underground storage investigations and remediation, water resources assessments, and solid waste knowledge, coupled with a keen ability to satisfy regulatory requirements and honor a clients fiscal concerns. Although Ms. Kennedy's project experience is widely varied it is appropriate to focus on those projects and experiences that specifically apply to the work that the City of Petaluma requires.

Program Manager, Owens-Brockway/Owens-Illinois Glass Container Facilities, For the last 10 years Ms Kennedy has worked with Owens-Brockway Glass Container, Inc. and Owens-Illinois to assess, remediate, negotiate regulatory closure, and facilitate property transactions at a number of facilities in the Bay Area, Michigan, Pennsylvania and Canada.

One notable example is the former Anchor Glass facility located in Antioch. Initially CKG was working for an interested developer. When Ms. Kennedy discovered two areas of previously unknown subsurface contamination, and the fact that the site was under Title 27 landfill regulation the developer walked away until Owens-Brockway addressed it . Ms Kennedy was able to demonstrate that the site landfill was not affecting groundwater and successfully had the Title 27 monitoring rescinded.

Another excellent example is the former Anchor Glass facility in Hayward. Ms. Kennedy became involved in 2001 when a foot of diesel fuel was found floating in an old monitoring well. Ms. Kennedy has since completed a number of soil and groundwater investigations, implemented groundwater monitoring and designed and installed a groundwater remediation system, followed by a targeted excavation with in-situ chemical oxidation. During this time Owens-Brockway sold the property to a developer and during the property transaction Ms. Kennedy discovered another area of impact associated with an old leach system. Ms Kennedy was able to complete a million-dollar soil excavation and disposal program, to the satisfaction of the regulator, which also included working on Union Pacific Rail property within six weeks so that the property transaction could be completed.

Technical Project Manager, City of Petaluma Brownfields Assessment Grant for Petroleum Hydrocarbons, Petaluma. As technical project manager Ms. Kennedy scopes, oversees, reviews and supports all of the technical tasks associated with the community-wide Phase I and Phase II assessments. Ms. Kennedy also coordinates with the EPA Project Officer and appropriate regulators to assure that the work is completed in compliance with EPA requirements as well as those of the local regulatory agencies.

Project Manager, Alignment Length Phase I and II Investigations, Santa Clara Valley Water District.
Ms Kennedy managed a series of large area-wide Phase I and Phase II investigations for various river alignments. These include the 7-mile length of the Upper Guadalupe River, the 5-mile length of the Lower Guadalupe River and a 3-mile section of Llagas Creek. These projects are very similar to City of Petaluma's community-wide assessment. These projects involved completing database review, aerial photograph surveys, Sanborn Map reviews, and drive-by site surveys to assess the alignments for potential environmental impacts. Selected parcels were then targeted for Phase II investigations that included coordinating site access, collecting soil and groundwater samples, and preparing reports.

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An ADEC Innovation

E.2 - Soil Trench Observations Letter

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CKG Environmental, Inc.

P.O. Box 246 St. Helena CA 94574
Phone (707) 967-8080 Fax: (707) 967-8080
ckennedy@geologist.com

January 12, 2018

Biale Family
c/o Randy Gularte
Heritage Sothebys
780 Lincoln Avenue
Napa, CA 94558

SUBJECT: Soil Trench Observations
1583 & 1657 El Centro Avenue. Napa, California.

Dear Mr. Gularte:

CKG Environmental, Inc. (CKG) is pleased to present this letter documenting our soil trenching observations made on January 11, 2018. CKG prepared a Phase I Environmental Site Assessment for the Property dated January 9, 2018. In the report CKG identified the potential for releases of petroleum hydrocarbons to surface soil from aboveground fuel storage tanks (ASTs) located at the Property. To address that concern the Biale Family agreed to meet CKG at the site while they excavated a series of trenches in the soil adjacent to the present fuel storage tanks and in an area where tanks had been located historically.

On January 11 CKG met Bob Biale and one of his employees at the site. Bob Biale identified the location of historical ASTs and confirmed that the present ASTs had been at their location for approximately 30 years and the historic ASTs had been located approximately 40-50 feet southeast of the present location. As directed by CKG, the employee used a small backhoe to excavate a series of potholes and trenches adjacent to the ASTs at the dispensing end and in the former AST area. Trenches and potholes were excavated to depth of one to two feet below grade. CKG observed the soil for odor and petroleum hydrocarbon staining. None were observed.

Based on CKGs observations we conclude that there was no indication of a significant release of petroleum hydrocarbons at the known locations of the present or historical ASTs. No further investigative work is warranted.

We appreciate the opportunity to work with you. Please call Chris Kennedy, at (707) 967-8080 if you have any questions or need additional information.

Sincerely,

CKG ENVIRONMENTAL, INC.

Christina J. Kennedy, R.G.
Principal

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FCS
An ADEC Innovation

Appendix F:

Hydrology and Water Quality Supporting Information

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FCS
An ADEC Innovation

F.1 - Stormwater Control Plan

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STORMWATER CONTROL PLAN FOR A REGULATED PROJECT

ZINFANDEL SUBDIVISION
1583 EL CENTRO AVENUE
NAPA, CALIFORNIA 94558

Prepared for:

Trinity Project, LLC

Project #4117017.0

September 15, 2023

1515 Fourth Street Napa, CA 94559 www.rsacivil.com 707.252.3301 v 707.252.4966 f

Table of Contents

I. Project Data 1
II. Setting 1
II.A. Project Location and Description 1
II.B. Existing Site Features and Conditions 2
II.C. Opportunities and Constraints for Stormwater Control 2
III. Low Impact Development Design Strategies 3
III.A. Optimization of Site Layout 3
III.B. Use of Permeable Pavements 3
III.C. Dispersal of Runoff to Pervious Areas 3
III.D. Stormwater Control Measures 4
IV. Documentation of Drainage Design 6
IV.A. Descriptions of Each Drainage Management Areas 6
IV.A.1. Drainage Management Areas 6
IV.A.2. Drainage Management Area Descriptions 6
IV.B. Tabulation and Sizing Calculations 7
V. Source Control Measures 7
V.A. Site activities and potential sources of pollutants 7
V.B. Potential Pollutant Sources and Source Control Measures 7
VI. Stormwater Facility Maintenance 10
VI.A. Ownership and Responsibility for Maintenance in Perpetuity 10
VI.B. Summary of Maintenance Requirements for Each Stormwater Facility 10
VII. Construction Plan E.12 Checklist 11
VIII. Certifications 11

TABLES

Table 1. Project Data Form

Table 2. Drainage Management Areas

Table 3. Potential Pollutant Sources and Source Control Measures

Table 4. Construction Plan E.12 Checklist

FIGURES

Figure 1. Vicinity Map

Figure 2. Existing Site Conditions

Figure 3. Bioretention Cross Section

ATTACHMENTS

1. Soil Classification

2. Stormwater Control Plan (Sheet TM9)

3. Provision E.12 Sizing Calculator Spreadsheet

I. Project Data

Table 1. Project Data Form

Project Name/Number	Zinfandel Subdivision / PL19-0016 / 4117017.0
Application Submittal Date	
Project Location	1583 El Centro Avenue Napa, California 94558 APN: Pending, Adjusted Parcel 2 per 2019-0016141
Project Phase No.	Not Applicable
Project Type and Description	Construction of a 51-lot single family residential subdivision including streets, driveways, utilities bioretention facilities and detention ponds.
Total Project Site Area	9.7 acres
Total New and Replaced Impervious Surface Area	199,285 sq. ft (including El Centro Avenue half street frontage & Lassen Street frontage)
Total Pre-Project Impervious Surface Area	26,197 sq. ft (including El Centro Avenue half street frontage & Lassen Street frontage)
Total Post-Project Impervious Surface Area	199,285 sq. ft (including El Centro Avenue half street frontage and Lassen Street frontage)

II. Setting

II.A. Project Location and Description

This project involves the demolition of an existing residential house and barn with asphalt driveway. The site will be developed to a 51-lot single family residential subdivision with public roads. This development is located at 1583 El Centro Avenue in Napa, California as shown in Figure 1 below.

Figure 1. Vicinity Map

The proposed use is consistent with the current RS 4 zoning. The project will include the construction of 51 residential houses, connecting public roads and installation of new public utilities along with stormwater quality control bioretention and detention facilities.

Refer to Attachment 2 for the overall scope of the project.

II.B. Existing Site Features and Conditions

The project site is irregular in shape and is generally flat. The site is currently used as vineyards with a residential house that fronts El Centro Avenue. The site is bounded by El Centro Avenue to the north and residential developments with public roads to the east, west and south. See Figure 2 below for existing site conditions.

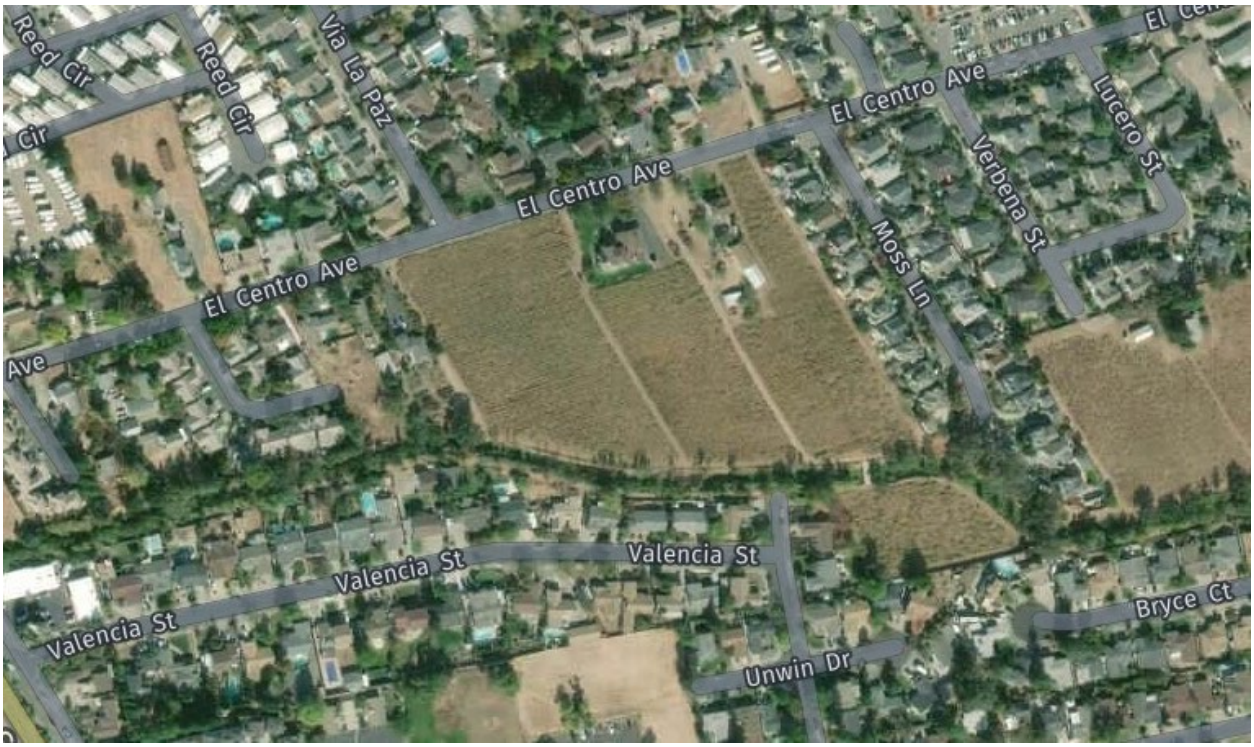


Figure 2. Existing Site Conditions

Mapping by the U.S. Conservation Service has classified soil over this project area as Clear Lake Clay (116) which is of the Hydraulic Soil Group D and Haire Loam (145) which is of the Hydraulic Soil Group D. Refer to Attachment 1 for Soils Map. Natural drainage from these parcels generally flows towards Salvador Channel. Stormwater is ultimately conveyed to the Napa River.

II.C. Opportunities and Constraints for Stormwater Control

Stormwater treatment facilities have been integrated into the planning, design, construction, operation, and maintenance of the proposed development. The following potential opportunities and constraints were considered in determining the best stormwater control design for this development.

Opportunities for this site are the availability of landscaped areas in the front and rear yards. Landscape areas on the parcels along Salvador Channel will be used as self-treating management areas since these

parcels will be predominantly pervious areas. Bioretention facilities will be installed to treat stormwater runoff prior to discharge from the site. Runoff will be conveyed to the bioretention facilities from roof downspouts and surface flows from the streets. Once in the bioretention basin, runoff will be treated via infiltration together with the pollutant retention capabilities of the plants in the facilities. These bioretention facilities will also be used for detention such that the proposed post-developed flow discharge from the development will be maintained at, or below pre-developed levels that will outfall to Salvador Channel. See Attachment 2 for locations of bioretention facilities.

Constraints will be the excavation of approximately 5,000 CY terrace along Salvador Channel to widen the channel laterally to mitigate development fill in the flood plain. In order to reduce the flood hazard to the development and other neighbors downstream, vegetation and native trees will be planted along this terrace to help prevent the land from eroding downstream. Additional channel restoration mitigation measures and plans approved by the City will be implemented to help reduce potential flood hazard.

III. Low Impact Development Design Strategies

III.A. Optimization of Site Layout

1. Limitation of development envelope
   The development of the houses will occur within the building setback lines per Section 17.08.030 of the City of Napa Municipal Code.
2. Preservation of natural drainage features
   Natural drainage consists of sheet flow over the ground surface that concentrates in man-made surface drainage elements such as ditches, gutters and onsite storm drain pipes. See constraints on Section II.C above.
3. Setbacks from creeks, wetlands, and riparian habitats
   Riparian setback from Salvador Channel to the maximum degree possible and at minimum as required by local ordinances.
4. Minimization of imperviousness
   Landscaping will be used in the front and rear yards. Impervious areas will be minimized to the maximum extent practicable.
5. Use of drainage as a design element
   Bioretention facilities are incorporated into the aesthetic landscape design of the site. Grading and storm drain locations have been designed to direct runoff to bioretention facilities.

III.B. Use of Permeable Pavements

Permeable pavements are not in the scope of this project.

III.C. Dispersal of Runoff to Pervious Areas

Stormwater runoff will be directed to landscaped areas.

III.D. Stormwater Control Measures

Runoff from the project site, including roof and paved areas, will be routed to four bioretention facilities (see Attachment 2). BRF #1 and #2 will also function as stormwater detention basins. All facilities are designed and will be constructed to the criteria in the BASMAA Post-Construction Manual (January 2019), including the following features (see Figure 3):

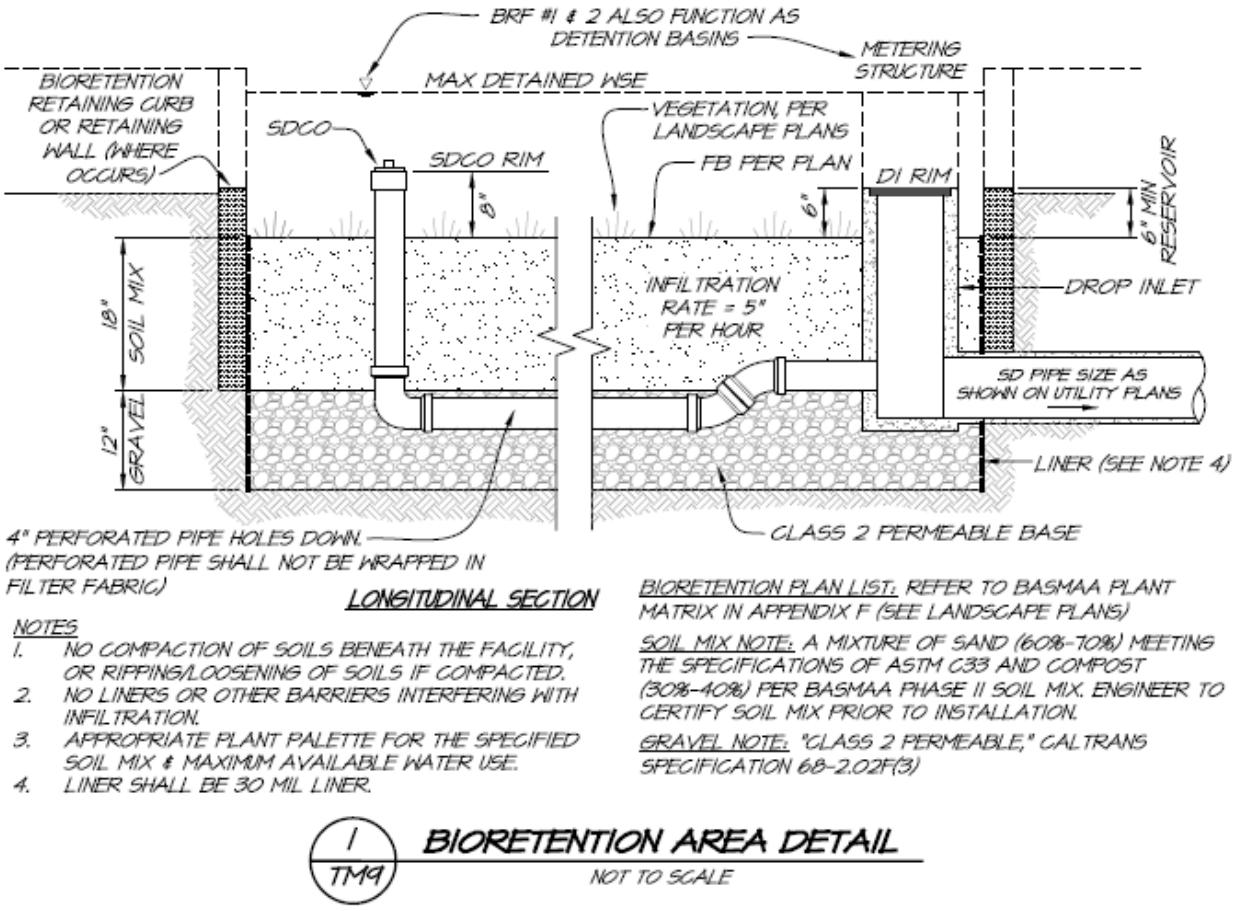


Figure 3. Bioretention Cross Section

- Surrounded by a concrete curb. Where adjacent to pavement, curbs will be thickened and an impermeable vertical cutoff wall will be included.
- Each layer built flat, level, and to elevations specified in the plans:
  - Bottom of Gravel Layer (BGL)
  - Top of Gravel Layer (TGL)
  - Top of Soil Layer (TSL)
  - Overflow Grate
  - Facility Rim
- 12 inches of Class 2 permeable, Caltrans specification 68-2.02F (3).

- 18 inches sand/compost mix meeting BASMAA specifications.
- 4-inch diameter PVC SDR 35 perforated pipe underdrain, installed with the invert at the top of the Class 2 permeable layer with holes facing down, and connected to the overflow structure at that same elevation.
- 6-inch-deep reservoir between top of soil elevation and overflow grate elevation.
- Concrete drop inlet with frame overflow structure, with grate set to specified elevation, connected to the on-site storm drain system.
- Vertical cutoff walls to protect adjacent pavement.
- Plantings selected for water conservation.
- Irrigation system on a separate zone, with drip emitters and "smart" irrigation controllers.
- Sign identifying the facility as a stormwater treatment facility.

Areas on the site which do not drain to a bioretention facility are the following (see Attachment 2 for reference):

- DMA 5 – The west portion of the private driveway along the Lassen Street frontage, totaling 700 square feet. Grading in this area must conform with existing street elevations. As a result, stormwater runoff from this DMA leaves the site untreated.
- DMA 6 – The southern flood terrace and maintenance path near lots 50-51, totaling 13,216 square feet. This DMA is considered as self-treating area (See Section 4.1 for BASMAA requirements for self-treating areas).
- DMA 7 – The northern flood terrace and access road near lots 2-19, totaling 45,697 square feet. This DMA is considered as self-treating area (See Section 4.1 for BASMAA requirements for self-treating areas).
- DMA 8 – The north portion of Lot 1, totaling 1,445 square feet. This DMA is considered as self-treating area (See Section 4.1 for BASMAA requirements for self-treating areas).
- DMA 9 – The north half street area of El Centro Avenue along Lot 1, totaling 3,734 square feet. Grading in this areas must conform with existing street elevations. As a result, stormwater runoff from this DMA leaves the site untreated.

The bioretention facilities that will collect and treat onsite stormwater will also function as Multi-Benefit Trash Treatment Systems in accordance with the State Water Board standards. They are designed to trap trash particles that are 5-mm and greater for the peak flow rate generated by the 1-year, 1-hour storm event from each drainage management area. The bioretention facilities will provide a 6" ponding reservoir per BASMAA requirements, which is sufficient depth such that the 1-year, 1-hour storm event will not reach the overflow elevations. Thus, all trash is captured at the surface of each bioretention facility. The overflow inlets have a grated lid for larger storm events.

IV. Documentation of Drainage Design

IV.A. Descriptions of Each Drainage Management Areas

IV.A.1. Drainage Management Areas

Table 2. Drainage Management Areas (DMAs) as shown on Attachment 2.

DMA Name	DMA $_{perv}$ (Pervious Area, square feet)	DMA $_{imp}$ (Impervious Area, square feet)	Pervious Pavers Area (square feet)	Total Area (square feet)	Bioretention Facility Name
1	129,479	161,020	--	298,293	BRF #1
2	13,038	13,866	--	27,627	BRF #2
3	8,587	14,637	--	23,876	BRF #3
4	1,713	4,400	--	6,306	BRF #4
5	54	646	--	700	Untreated
6	13,216	0	--	13,216	Self-Treating
7	44,209	1,488	--	45,697	Self-Treating
8	1,445	0	--	1,445	Self-Treating
9	506	3,228	--	3,734	Untreated

IV.A.2. Drainage Management Area Descriptions

DMA 1: Totaling 298,293 square feet, this DMA consists of Lots 2 to 19, 20 to 26, 29 to 46, 49, and portions of Lots 1, 27 to 28, 47, 48, and parcel A. It also includes Clementina Circle, a small portion of street of El Centro Avenue intersecting Clementina Circle along the project frontage. Runoff from the roof will drain out from downspouts to splash boxes that flows towards the street via landscape areas then along the street gutter toward the street catch basins then to a storm drain pipe that outfalls to BRF #1. This bioretention facility has a total treatment area of 7,794 square feet and will also function as a stormwater detention basin.

DMA 2: Totaling 27, 627 square feet, this DMA consists of Lots 50 to 51 and a large portion of the private driveway and parcel C. Runoff from the roof will drain out from downspouts to splash boxes that flows towards the street via landscape areas then along the driveway gutter toward the curb opening inlet adjacent to BRF #2. This bioretention facility has a total treatment area of 723 square feet and will also function as a stormwater detention basin.

DMA 3: Totaling 23,876 square feet, this DMA consists of portions of Lots 28, 47, 48 and APN 036-361-043 together with the half street frontage portion of El Centro Avenue along these areas. Runoff from the roof will drain out from downspouts to splash boxes that flows towards the street via landscape areas then along the street gutter toward the curb opening inlet adjacent to BRF #3. This bioretention facility has a total treatment area of 652 square feet.

DMA 4: Totaling 6,306 square feet, this DMA consists of a portion of Lot 27 together with the half street frontage portion of El Centro Avenue along this area. Runoff from the roof will drain from downspouts to splash boxes that flow toward the street via landscape areas then along the street gutter toward the curb opening inlet adjacent to BRF #4. This bioretention facility has a total treatment area of 193 square feet.

DMA 5: The west portion of the private driveway along the Lassen Street frontage, totaling 700 square feet, a small portion of parcel C. Grading in this area must conform with existing street elevations. As a result, stormwater runoff from this DMA leaves the site untreated.

DMA 6: The southern flood terrace and maintenance path near Lots 50 to 51, totaling 13,216 square feet, a portion of parcel C. This DMA is considered as self-treating area meeting the following BASMAA requirements: 1) There are no impervious areas or very small impervious area (5% or less) relative to the receiving pervious area; and, 2) Slopes are gentle enough to ensure runoff will be absorbed into the vegetation and soil.

DMA 7: The northern flood terrace and access road near Lots 2 to 19, totaling 45,697 square feet. This DMA is considered self-treating area meeting the following BASMAA requirements: 1) There are no impervious areas or very small impervious area (5% or less) relative to the receiving pervious area; and, 2) Slopes are gentle enough to ensure runoff will be absorbed into the vegetation and soil.

DMA 8: The north portion of Lot 1, totaling 1,445 square feet. This DMA is considered self-treating area meeting the following BASMAA requirements: 1) There are no impervious areas or very small impervious area (5% or less) relative to the receiving pervious area; and, 2) Slopes are gentle enough to ensure runoff will be absorbed into the vegetation and soil.

DMA 9: The north half street area of El Centro Avenue along Lot 1, totaling 3,734 square feet. Grading in these areas must conform with existing street elevations. As a result, stormwater runoff from this DMA leaves the site untreated.

IV.B. Tabulation and Sizing Calculations

Refer to Attachment 3 for Provision E.12 Sizing Calculator Spreadsheet.

V. Source Control Measures

V.A. Site activities and potential sources of pollutants

On-site activities that could potentially produce stormwater pollutants include:

- On-site storm drains
- Interior floor drains
- Pest control
- Landscaping
- Refuse areas
- Fire sprinkler test water
- Miscellaneous drain water
- Streets and sidewalks

V.B. Potential Pollutant Sources and Source Control Measures

The site activities and potential sources of pollutants for the Zinfandel Subdivision project are listed in Table 3, below.

Table 3. Potential Pollutant Sources and Source Control Measures

Potential Sources of Runoff Pollutants	Permanent Source Control BMPs	Operational Source Control BMPs
A. On-site storm drain inlets (unauthorized non-stormwater discharges and accidental spills or leaks)	☐ Mark all inlets with the words "No Dumping! Flows to River" or similar.	☐ Maintain and periodically repaint or replace inlet markings. ☐ Provide stormwater pollution prevention information to new site owners, lessees, or operators. ☐ See applicable operational BMPs in Fact Sheet SC-74, "Drainage System Maintenance."
B. Interior floor drains and elevator shaft sump pumps	☐ Interior floor drains and elevator shaft sump pumps will be plumbed to the sanitary sewer.	☐ Inspect and maintain drains to prevent blockages and overflow.
D_1. Need for future indoor & structural pest control	☐ Building design shall incorporate features that discourage entry of pests.	☐ Provide Integrated Pest Management information to owners, lessees, and operators.
D_2. Landscape / outdoor pesticide use / building and grounds maintenance	Final landscape plans will accomplish all of the following: ☐ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ☐ Minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. ☐ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ☐ Use pest-resistant plants, especially adjacent to hardscape. ☐ To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	☐ Maintain landscaping using minimum or no pesticides. ☐ See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance." ☐ Provide IPM information to new owners, lessees and operators.
G. Refuse areas	☐ Refuse areas shall be paved with an impervious surface, designed not to allow run-on from adjoining areas, and screened to prevent off-site transport of trash. ☐ Refuse areas shall contain a roof to minimize direct precipitation. ☐ No drain connections shall be made to the Refuse area.	☐ Provide adequate number of receptacles. ☐ Inspect receptacles regularly; repair or replace leaky receptacles. ☐ Keep receptacles covered. ☐ Prohibit/prevent dumping of liquid or hazardous wastes. ☐ Post "no hazardous materials" signs. ☐ Inspect and pick up litter daily and clean up spills immediately.

Potential Sources of Runoff Pollutants	Permanent Source Control BMPs	Operational Source Control BMPs
		☐ Keep spill control materials available on-site. ☐ Clean by dry-sweeping only, or with wet/dry vacuum. ☐ See Fact Sheet SC-34, "Waste Handling and Disposal"
N. Fire sprinkler test water	☐ Fire sprinkler test water shall be discharged to the sanitary sewer.	☐ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance"
O. Miscellaneous drain or wash water or other sources • Boiler drain lines • Condensate drain lines • Rooftop equipment • Drainage sumps • Roofing, gutters, and trim • Other sources	☐ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain. ☐ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ☐ Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ☐ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.	If architectural copper is used, implement the following BMPs for management of rinse water during installation: ☐ If possible, purchase copper materials that have been pre-patinated at the factory. ☐ If patination is done on-site, prevent rinse water from entering storm drains by discharging to landscaping or by collecting in a tank and hauling off-site. ☐ Consider coating the copper materials with an impervious coating that prevents further corrosion and runoff. ☐ Implement the following BMPs during routine maintenance: ☐ Prevent rinse water from entering storm drains by discharging to landscaping or by collecting in a tank and hauling off-site.
P. Plazas, sidewalks, and parking lots		☐ Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

VI. Stormwater Facility Maintenance

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

Maintenance of stormwater facilities will be the responsibility of the property owner and will be performed by the owner's contractors or employees as part of routine maintenance of buildings, grounds and landscaping. The applicant will review the Post-Construction BMP Maintenance Agreement with the City of Napa regarding the maintenance of the stormwater facilities and commit to execute any necessary agreements prior to completion of construction. Applicant accepts responsibility for interim operation and maintenance of stormwater treatment and flow-control facilities until such time as this responsibility is formally transferred to a subsequent owner.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

The bioretention/detention facilities will be maintained on the following schedule at a minimum. Details of maintenance responsibility and procedures will be included in an Operation and Maintenance Plan to be submitted for approval prior to the completion of construction.

At no time will synthetic pesticides or fertilizers be applied, nor will any soil amendments, other than aged compost mulch or sand/compost mix, be introduced.

Daily: The facilities will be examined for visible trash during regular policing of the site, and trash will be removed.

After Significant Rain Events: A significant rain event is one that produces approximately a half-inch or more rainfall in a 24-hour period. Within 24 hours after each such event, the following will be conducted:

- The surface of the facility will be observed to confirm there is no excessive ponding. All facilities are designed to pond up to a 6" reservoir for stormwater treatment, and BRF #1 & #2 are designed to further detain up to a 24-hour, 100-year rainfall event.
- Inlets will be inspected, and any accumulations of trash or debris will be removed.
- The surface of the mulch layer will be inspected for movement of material. Mulch will be replaced and raked smooth if needed.
- At BRF #1 & #2, the metering structure and orifice will be inspected, and any accumulations of debris or sediment will be removed.

Prior to the Start of the Rainy Season: In September of each year, the facility will be inspected to confirm there is no accumulation of debris that would block flow, and that growth and spread of plantings does not block inlets or the movement of runoff across the surface of the facility. At BRF #1 & #2, the metering structure and orifice will be inspected, and any accumulations of debris or sediment will be removed.

Annual Landscape Maintenance: In December – February of each year, vegetation will be cut back as needed, debris removed, and plants and mulch replaced as needed. The concrete work will be inspected for damage. The elevation of the top of soil and mulch layer will be confirmed to be consistent with the 6-inch reservoir depth.

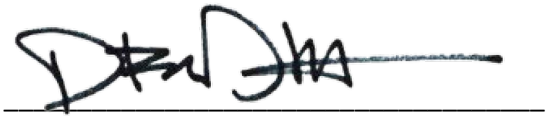
VII. Construction Plan E.12 Checklist

Table 4. Construction Plan E.12 Checklist

Stormwater Control Plan Page #	Source Control or Treatment Control Measure	See Plan
1	Bioretention Facilities	SCP Site Plan in Attachment 2

VIII. Certifications

The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the BASMAA Post-Construction Manual, dated January 2019.



Preparer
Derek Dittman, PE

ATTACHMENT 1

SOIL CLASSIFICATION

122° 19' 2" W
122° 18' 43" W
38° 20' 10" N
38° 20' 0" N

Map Scale: 1:2,120 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Napa County, California
Survey Area Data: Version 10, Sep 25, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2015—Oct 18, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
116	Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14	D	1.2	11.9%
145	Haire loam, 0 to 2 percent slopes	D	9.2	88.1%
Totals for Area of Interest			**10.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

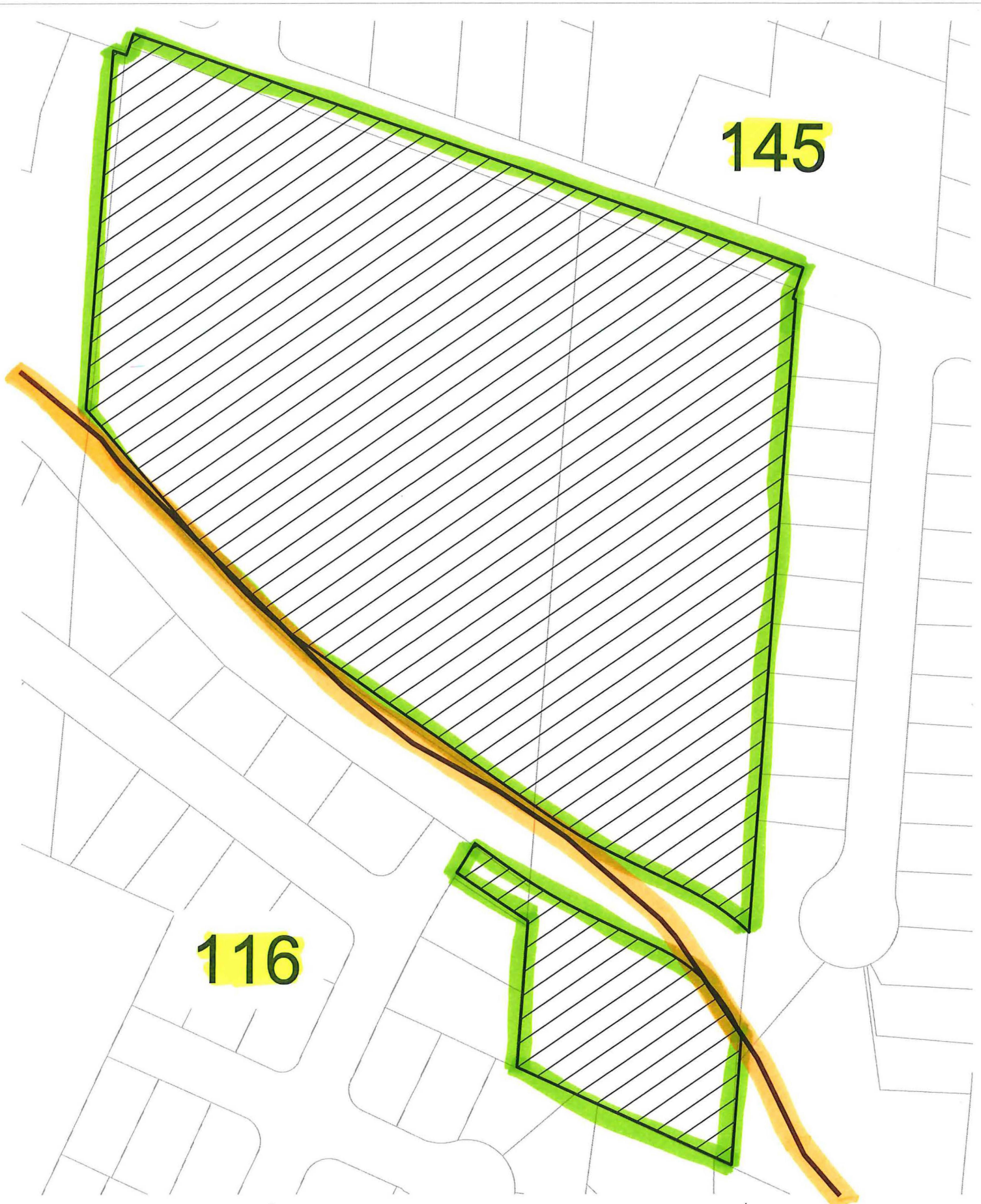
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

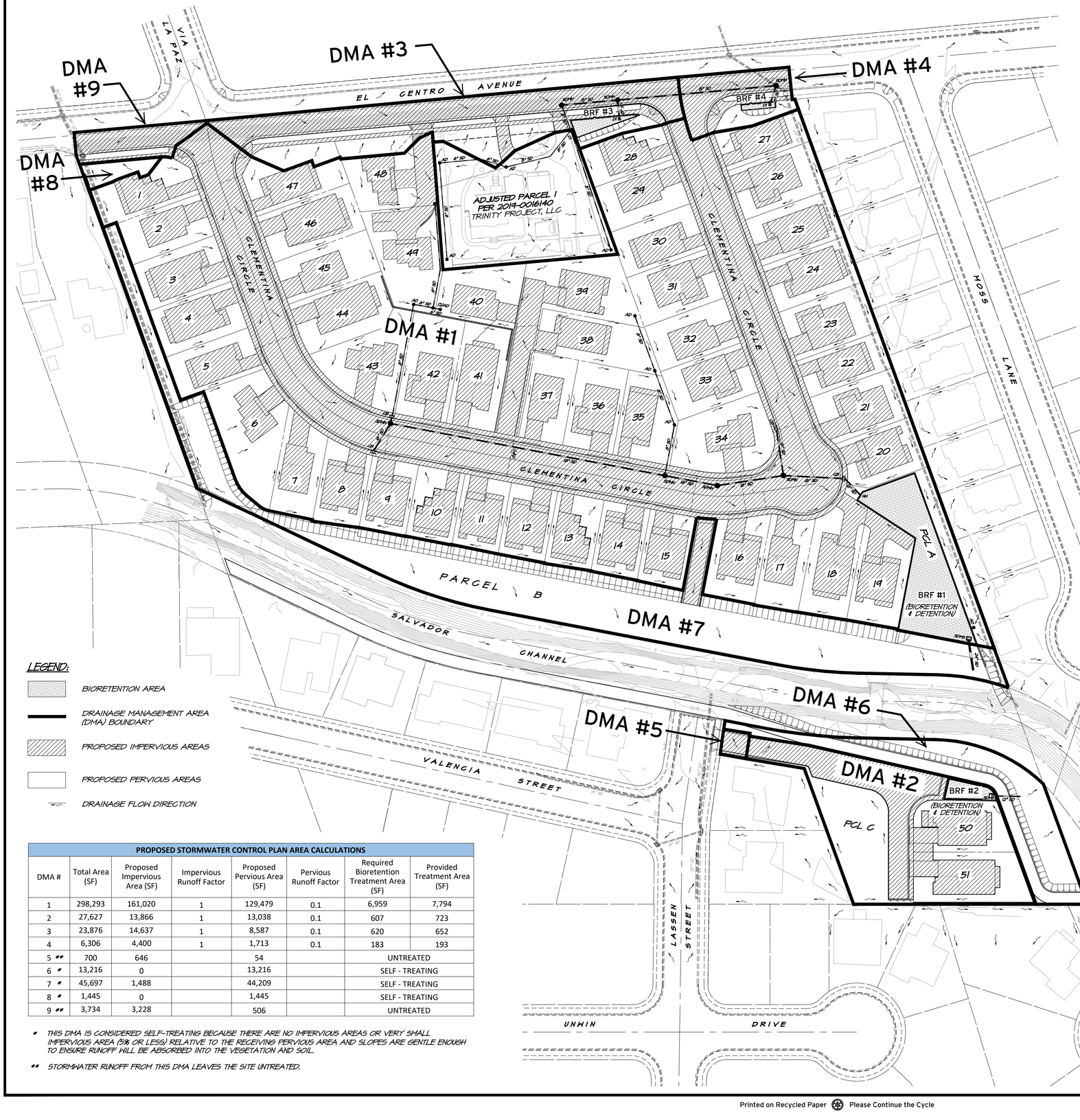
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



SCS SOIL CLASSIFICATION EXHIBIT
FOR PRELIMINARY
DETENTION SYSTEM CALCULATION

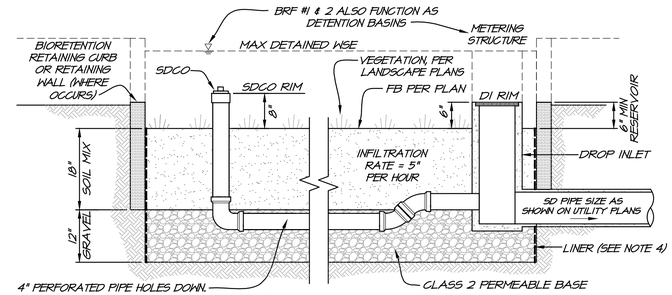
ATTACHMENT 2

STORMWATER CONTROL PLAN (SHEET TM9)



PROPOSED POST CONSTRUCTION BMP's

BMP (BEST MANAGEMENT PRACTICES)	TREATMENT AREA
1. BIORETENTION AREAS, 4 EACH (SEE DETAIL 1/TM9 IN THIS SHEET)	SEE MAP FOR DMA
2. 'NO DUMPING, DRAINS TO RIVER' STAMPING ON ALL INLETS (SEE DETAIL 2/TM9 IN THIS SHEET)	ENTIRE PROJECT
3. 'WATER QUALITY FEATURE ON SITE' STAMPING ON ALL BIORETENTION INLETS (SEE DETAIL 3/TM9 IN THIS SHEET)	ENTIRE PROJECT
4. SPLASH BLOCKS ON ALL DOWNSPOUTS (SEE DETAIL 4/TM9 IN THIS SHEET)	ENTIRE PROJECT
5. HOMEOWNER EDUCATION: COPY OF SCP AND MAINTENANCE AGREEMENT TO BE PROVIDED TO OWNER	ENTIRE PROJECT



LONGITUDINAL SECTION

NOTES:
1. NO COMPACTION OF SOILS BENEATH THE FACILITY, OR RIPPING/LOOSENING OF SOILS IF COMPACTED.
2. NO LINERS OR OTHER BARRIERS INTERFERING WITH INFILTRATION.
3. APPROPRIATE PLANT PALETTE FOR THE SPECIFIED SOIL MIX & MAXIMUM AVAILABLE WATER USE.
4. LINER SHALL BE 30 MIL LINER.

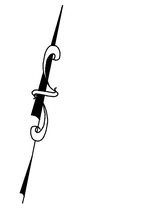
BIORETENTION PLAN LIST: REFER TO BASMAA PLANT MATRIX IN APPENDIX F (SEE LANDSCAPE PLANS)

SOIL MIX NOTE: A MIXTURE OF SAND (60%-70%) MEETING THE SPECIFICATIONS OF ASTM C33 AND COMPOST (30%-40%) PER BASMAA PHASE II SOIL MIX. ENGINEER TO CERTIFY SOIL MIX PRIOR TO INSTALLATION.

GRAVEL NOTE: "CLASS 2 PERMEABLE" CALTRANS SPECIFICATION 68-2.02F(3)

1/TM9 **BIORETENTION AREA DETAIL**
NOT TO SCALE

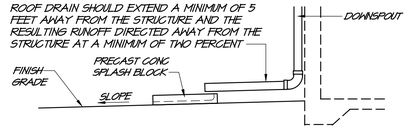
GRAPHIC SCALE
50 0 50 100
(IN FEET)
1 inch = 50 FT



2/TM9 **DROP INLET MARKER**
NOT TO SCALE

NOTES
1. EACH BIORETENTION FACILITY WITHIN THE CITY LIMITS SHALL BE MARKED WITH A "WATER QUALITY FEATURE ON SITE - DO NOT ALTER OR REMOVE" MARKER.
2. CONTRACTOR IS TO PURCHASE THESE MARKERS FROM THE PUBLIC WORKS DEPARTMENT LOCATED AT 1600 FIRST STREET.

3/TM9 **BIORETENTION FACILITY MARKER**
NOT TO SCALE



4/TM9 **SPLASH BLOCK DETAIL**
NOT TO SCALE

LEGEND:

- BIORETENTION AREA
- DRAINAGE MANAGEMENT AREA (DMA) BOUNDARY
- PROPOSED IMPERVIOUS AREAS
- PROPOSED PERVIOUS AREAS
- DRAINAGE FLOW DIRECTION

PROPOSED STORMWATER CONTROL PLAN AREA CALCULATIONS

DMA #	Total Area (SF)	Proposed Impervious Area (SF)	Impervious Runoff Factor	Proposed Pervious Area (SF)	Pervious Runoff Factor	Required Bioretention Treatment Area (SF)	Provided Treatment Area (SF)
1	298,293	161,020	1	129,479	0.1	6,959	7,794
2	27,627	13,866	1	13,038	0.1	607	723
3	23,876	14,637	1	8,587	0.1	620	652
4	6,306	4,400	1	1,713	0.1	183	193
5 **	700	646		54		UNTREATED	
6 *	13,216	0		13,216		SELF - TREATING	
7 *	45,697	1,488		44,209		SELF - TREATING	
8 *	1,445	0		1,445		SELF - TREATING	
9 **	3,734	3,228		506		UNTREATED	

* THIS DMA IS CONSIDERED SELF-TREATING BECAUSE THERE ARE NO IMPERVIOUS AREAS OR VERY SMALL IMPERVIOUS AREA (5% OR LESS) RELATIVE TO THE RECEIVING PERVIOUS AREA AND SLOPES ARE GENTLE ENOUGH TO ENSURE RUNOFF WILL BE ABSORBED INTO THE VEGETATION AND SOIL.

** STORMWATER RUNOFF FROM THIS DMA LEAVES THE SITE UNTREATED.

Printed on Recycled Paper Please Continue the Cycle

PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS	BY	APPD

RSA+ CONSULTING CIVIL ENGINEERS + SURVEYORS +
1515 FOURTH STREET NAPA, CALIFORNIA 94559
OFFICE (707)252.3301
+ www.RSAcivil.com +

ZINFANDEL SUBDIVISION
STORMWATER CONTROL PLAN
NAPA CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
DEREK MASON DITMAN
No. 90885
Exp. 03.31.2024
CIVIL ENGINEER
STATE OF CALIFORNIA

DATE	JUNE 9, 2023
DRAWN	DEL
DESIGNED	RAY
CHECKED	DMD
JOB NO.	4117017.0

SHEET NO.
TM9
10 OF 11 SHEETS

K:\2017\4117017.0\Plans_Specs\civil\CPDS\ENGR\plotfiles\TM9TM9.dwg 06/21/2023 4:35:41PM RSADesigner5 COPYRIGHT RSA+

ATTACHMENT 3

PROVISION E.12 SIZING CALCULATOR SPREADSHEET

Provision E.12 Sizing Calculator

See the instructions and the BASMAA Post-Construction Manual

Step 1: Enter Total Site Area	**Step 2:** List names of all DMAs and square footage of each	**Step 3:** If DMA is "Self-Treating" or "Self-Retaining," **copy** square footage to appropriate column		**Step 4:** If the DMA is "Drains to Self Retaining" or "Drains to Bioretention" enter runoff factor from Table 4-1		**Step 6:** For "Drains to Self-Retaining" DMAs, enter the **name of receiving DMA**	**Step 5:** Slide (move) number from this column to correct column (F or H-Q)							
Total Site Area:	420,894							**BIORETENTION FACILITIES**						
DMA Names	**Square Feet**	**Self-Treating**	**Self-Retaining**	**Runoff Factor**	**Untreated**	**Name of Receiving DMA**	**BRF #1**	**BRF #2**	**BRF #3**	**BRF #4**				
DMA-1_{perv}	129,479			0.1			12,948							
DMA-1_{imp}	161,020			1			161,020							
DMA-2_{perv}	13,038			0.1				1,304						
DMA-2_{imp}	13,866			1				13,866						
DMA-3_{perv}	8,587			0.1					859					
DMA-3_{imp}	14,637			1					14,637					
DMA-4_{perv}	1,713			0.1						171				
DMA-4_{imp}	4,400			1						4,400				
DMA-5_{perv}	54				54									
DMA-5_{imp}	646				646									
DMA-6_{perv}	13,216	13,216												
DMA-6_{imp}	0	0												
DMA-7_{perv}	44,209	44,209												
DMA-7_{imp}	1,488	1,488												
DMA-8_{perv}	1,445	1,445												
DMA-8_{imp}	0	0												
DMA-9_{perv}	506				506									
DMA-9_{imp}	3,228				3,228									
Total DMAs	**411,532**	**60,358**	**0**		**4,434**		**173,968**	**15,170**	**15,496**	**4,571**	**0**	**0**	**0**	**0**
						Sizing Factor	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**
						Minimum Size	**6,959**	**607**	**620**	**183**	**0**	**0**	**0**	**0**
Total Facilities	**9,362**	**Step 7:** Enter Facilty Footprints				**Footprint on Exhibit**	7,794	723	652	193	0	0	0	0
DMAs + Facilities	**420,894**						**OK**	**OK**	**OK**	**OK**	**OK**	**OK**	**OK**	**OK**
	OK	**Step 8:** Iterate sizes of facility footprints and DMAs until all footprints are at least the minimum **AND** DMAs + Facilities equals Total Site Area												
		Step 9: Check to make sure Areas Draining to each Receiving Self-Retaining Area do not exceed maximum 2:1 ratio.												
		Step 10: Check results on this spreadsheet are consistent with what is shown on the SCP Exhibit.												

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FCS
An ADEC Innovation

F.2 - Preliminary Detention Calculations

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PRELIMINARY DETENTION CALCULATIONS

ZINFANDEL SUBDIVISION
1583 EL CENTRO AVENUE
NAPA, CALIFORNIA 94558

Trinity Project, LLC

Project #4117017.0

September 15, 2023

1515 Fourth Street Napa, California 94559 www.rsacivil.com 707.252.3301 v. 707.252.4966 f.

Table of Contents

Executive Summary

Introduction
Existing Conditions
Proposed Conditions

Appendix A: Watershed Exhibits

Existing Watershed Exhibit
Proposed Detained Watershed Exhibit
Proposed Undetained Watershed Exhibit

Appendix B: Hydrograph Calculation Parameters

Hydrologic Soil Group, Web Soil Survey (4 Sheets)
Runoff Curve Number Table, TR 55 (Table 2-2a)
Runoff Curve Number Calculations (2 Sheets)
Table 3-1, TR 55 (Roughness Coefficients for Sheet Flow)
Table 2.2, City of Napa Drainage Standards (Rainfall Depth – Duration)
Time of Concentration Calculations (7 Sheets)

Appendix C: Detention Calculations using Hydraflow

Watershed Model Schematic
Hydrograph Return Period Recap
Reports (100-Year)
- Hydrograph Summary Report
- Existing Watershed Hydrograph
- Proposed Pre-Routed Watershed Hydrograph
- Proposed Undetained Watershed Hydrograph
- Proposed Detained/Routed Hydrograph

Pond Report
IDF Report
Conclusion

INTRODUCTION

In order to satisfy the City of Napa Drainage Design Standard Section 2.10.02, which states that projects must provide detention of stormwater such that peak flows do not exceed predeveloped runoff rates, the TR-55 method was used to demonstrate the peak runoff rates of the site in both the pre- and post-developed conditions. The calculations were then used to determine the on-site storage volumes necessary to limit post-development rates below the pre-developed conditions. Because the project site is located within the Salvador Basin and proposes more than 4 residential units, it is required to detain up to the 100-year design storm. Based on these calculations, as summarized in the Conclusion in Appendix C, the site has adequate storage capacity in the bioretention/detention facilities to detain the post-development peak flows as required.

The method used for this calculation is hydrograph analysis. The unit hydrograph rainfall distribution for the City of Napa falls under Type IA-distribution. The SCS hydrograph analysis is based on the National Resources Conservation Service Technical Release 55 for Urban Hydrology for Small Watersheds (TR-55) method (refer to Appendix B for Hydrograph Calculation Parameters).

There are two watersheds considered in this calculation. The larger Watershed #1 consists of the northern portion of the site between El Centro Avenue and Salvador Creek, while the smaller Watershed #2 consists of the remaining portion of the site south of Salvador Creek.

EXISTING CONDITIONS

The entire site, including Watersheds #1 & #2, currently drains to Salvador Creek at the eastern limit of the project. An exhibit showing the existing watersheds and time of concentration flow summary can be found in Appendix A.

PROPOSED CONDITIONS

Combination bioretention/detention facilities will be provided to detain runoff and mitigate peak flows. Portions of the developed site are not feasible to be captured and detained, including the new frontage along El Centro Avenue and the terraces along Salvador Creek. Therefore, both Watersheds #1 & #2 have portions that will be detained and portions that will not be detained. Total post-development flow was calculated by summing the detained and undetained portions for comparison with pre-development conditions using the terminus at Salvador Creek.

Refer to Appendix A for Watershed Exhibits for the proposed detained and undetained watersheds with areas. The proposed runoff for the 100-year storm is shown in the Conclusion (refer to Appendix C for Detention Calculation using Hydraflow Hydrographs Extension).

CONCLUSION

These calculations identify and describe the impacts of the proposed Zinfandel Subdivision on the hydrologic characteristics of the site and quantify the necessary storage requirement for the detention facility. The storm drain system of Zinfandel Subdivision is designed such that the proposed post-developed flow discharge from the development will not exceed pre-developed levels in accordance with the City of Napa Drainage Standards.

Summary of hydrologic analysis:

FOR DETENTION BASIN #1

100-year Pre & Post Developed Flow Discharge

Pre-developed peak run-off = **8.663 cfs**

Post-developed (Undetained) peak run-off = 2.698 cfs
Post-developed (Detained) peak run-off = 5.912 cfs
Post-developed flow discharge = 8.61 cfs

Results
100-year: **8.61 cfs** (Post-developed) **≤ 8.663 cfs** (Pre-developed) **√**

Detention Volume Requirement

Detention volume required = 16,710 ft^3 or 0.3836 ac-ft
Detention volume provided * = 21,069 ft^3 or 0.4837 ac-ft

Results
Detention: **16,710 ft^3** (required) **≤ 21,069 ft^3** (provided) **√**

Orifice Requirement

The routing and detention are accomplished by a broad crested orifice in the metering structure within the bioretention and detention basin.

The required orifice dimensions are: 18 inches long & 9.2 inches high.

FOR DETENTION BASIN #2

100-year Pre & Post Developed Flow Discharge

Pre-developed peak run-off = **1.035 cfs**

Post-developed (Undetained) peak run-off = 0.411 cfs
Post-developed (Detained) peak run-off = 0.563 cfs
Post-developed flow discharge = 0.974 cfs

Results
100-year: **0.974 cfs** (Post-developed) **≤ 1.035 cfs** (Pre-developed) **√**

Detention Volume Requirement

Detention volume required = 1,740 ft^3 or 0.0399 ac-ft
Detention volume provided * = 2,024 ft^3 or 0.0465 ac-ft

Results
Detention: **1,740 ft^3** (required) **≤ 2,024 ft^3** (provided) **√**

Orifice Requirement

The routing and detention are accomplished by a broad crested orifice in the metering structure within the bioretention and detention basin.

The required orifice dimensions are: 8 inches long & 2 inches high.

Appendix A

Watershed Exhibits

EXISTING WATERSHED 1
= 9.14 ACRES

Open Space = 8.44 Acres
Impervious Areas = 0.70 Acres

EXISTING WATERSHED 2
= 0.95 ACRES

Open Space = 0.95 Acres
Impervious Areas = None

SCALE: 1" = 100'

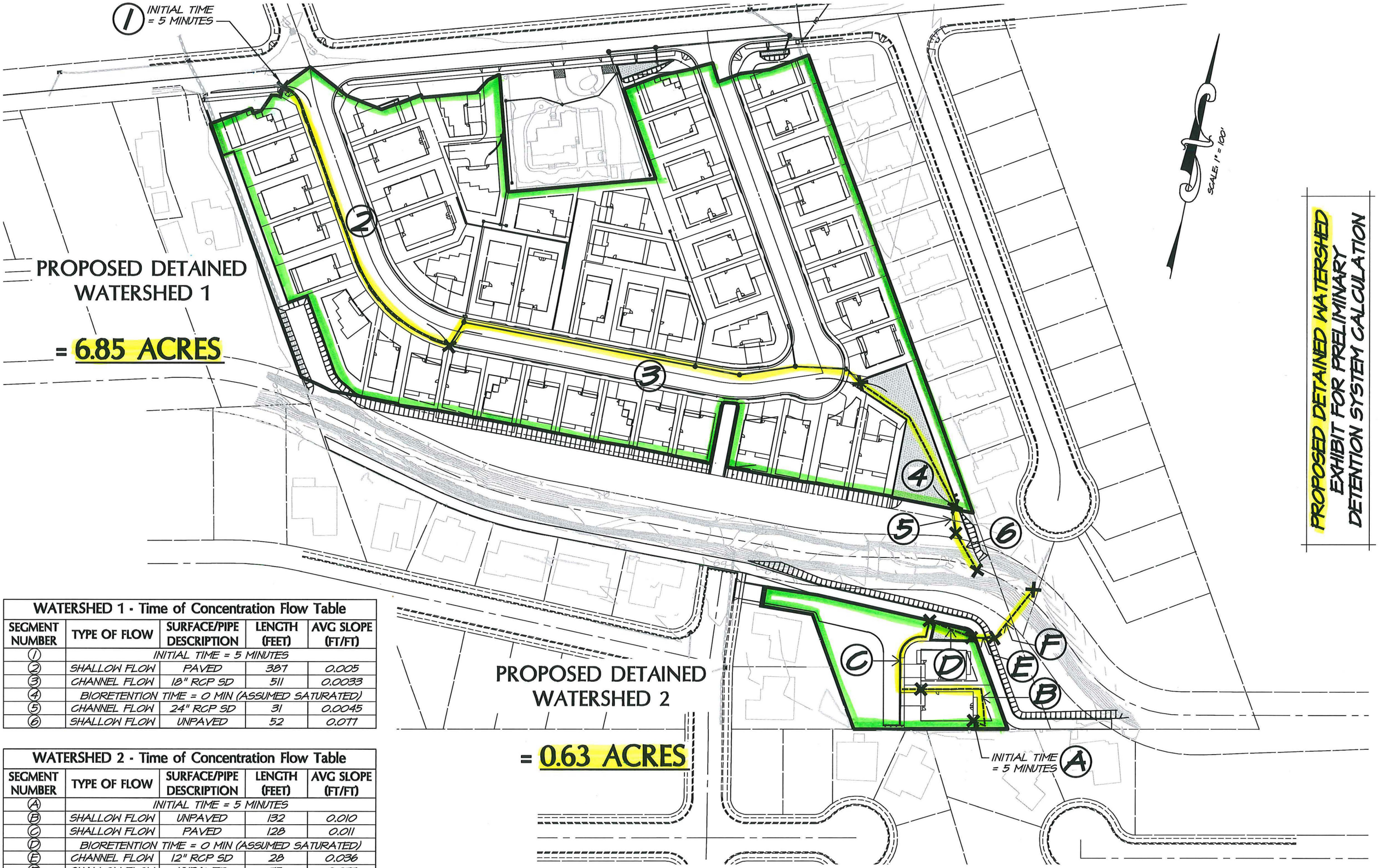
EXISTING WATERSHED EXHIBIT FOR PRELIMINARY DETENTION SYSTEM CALCULATION

WATERSHED 1 - Time of Concentration Flow Table

SEGMENT NUMBER	TYPE OF FLOW	SURFACE/PIPE DESCRIPTION	LENGTH (FEET)	AVG SLOPE (FT/FT)
①	SHEET FLOW	VINEYARD	300	0.014
②	SHALLOW FLOW	UNPAVED	860	0.009

WATERSHED 2 - Time of Concentration Flow Table

SEGMENT NUMBER	TYPE OF FLOW	SURFACE/PIPE DESCRIPTION	LENGTH (FEET)	AVG SLOPE (FT/FT)
①	SHEET FLOW	SHORT GRASS	275	0.04



PROPOSED DETAINED WATERSHED
EXHIBIT FOR PRELIMINARY
DETENTION SYSTEM CALCULATION

WATERSHED 1 - Time of Concentration Flow Table				
SEGMENT NUMBER	TYPE OF FLOW	SURFACE/PIPE DESCRIPTION	LENGTH (FEET)	AVG SLOPE (FT/FT)
1	INITIAL TIME = 5 MINUTES			
2	SHALLOW FLOW	PAVED	387	0.005
3	CHANNEL FLOW	18" RCP SD	511	0.0033
4	BIORETENTION TIME = 0 MIN (ASSUMED SATURATED)			
5	CHANNEL FLOW	24" RCP SD	31	0.0045
6	SHALLOW FLOW	UNPAVED	52	0.077

WATERSHED 2 - Time of Concentration Flow Table				
SEGMENT NUMBER	TYPE OF FLOW	SURFACE/PIPE DESCRIPTION	LENGTH (FEET)	AVG SLOPE (FT/FT)
A	INITIAL TIME = 5 MINUTES			
B	SHALLOW FLOW	UNPAVED	132	0.010
C	SHALLOW FLOW	PAVED	128	0.011
D	BIORETENTION TIME = 0 MIN (ASSUMED SATURATED)			
E	CHANNEL FLOW	12" RCP SD	28	0.036
F	SHALLOW FLOW	UNPAVED	75	0.077

PROPOSED UNDETAINED WATERSHED 1

= 2.30 ACRES

PROPOSED UNDETAINED WATERSHED 2

= 0.32 ACRES

SCALE 1" = 100'

PROPOSED UNDETAINED WATERSHED
EXHIBIT FOR PRELIMINARY
DETENTION SYSTEM CALCULATION

WATERSHED 1 - Time of Concentration Flow Table

SEGMENT NUMBER	TYPE OF FLOW	SURFACE/PIPE DESCRIPTION	LENGTH (FEET)	AVG SLOPE (FT/FT)
①	SHEET FLOW	SHORT GRASS	300	0.03
②	SHALLOW FLOW	UNPAVED	840	0.005

WATERSHED 2 - Time of Concentration Flow Table

SEGMENT NUMBER	TYPE OF FLOW	SURFACE/PIPE DESCRIPTION	LENGTH (FEET)	AVG SLOPE (FT/FT)
Ⓐ	SHEET FLOW	SHORT GRASS	300	0.03
Ⓑ	SHALLOW FLOW	UNPAVED	80	0.0125

Appendix B

Hydrograph Calculation Parameters

RUNOFF CURVE NUMBERS

Table 2-2a Runoff curve numbers for urban areas [1]

Cover description: Cover type and hydrologic condition	Average percent impervious area [2]	Curve numbers for hydrologic soil group: A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

USED TO CALCULATE EXISTING CN

PROPOSED CN

[1] Average runoff condition, and $I_a = 0.2S$.

[2] The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

[3] CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

[4] Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

[5] Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

TABLE 2-2a (TR 55)

CURE NUMBER CALCULATIONS

Worksheet: Runoff Curve Number (EXISTING)

Project	Zinfandel Subdivision	By	Ray	Date	8/30/2019
Location	Napa, California	Checked		Date	
Subshed name	Existing Watershed 1	Check one:	☑ Present	☐ Developed	

RUNOFF CURVE NUMBER

Soil name and hydrologic group (SCS book)	Cover description (cover type, treatment and hydrogic condition; percent impervious)	CN (1) (Table 2-2)	Area ☑ acres ☐ mi2 ☐ %	Product of CN x Area
145-D	Open Space (Grass Cover, Fair condition)	84	8.44	708.96
145-D	Impervious Areas (Paved Areas & Roofs)	98	0.70	68.60

Worksheet: Runoff Curve Number

Project	Zinfandel Subdivision	By	Ray	Date	8/30/2019
Location	Napa, California	Checked		Date	
Subshed name	Existing Watershed 2	Check one:	☑ Present	☐ Developed	

RUNOFF CURVE NUMBER

Soil name and hydrologic group (SCS book)	Cover description (cover type, treatment and hydrogic condition; percent impervious)	CN (1) (Table 2-2)	Area ☑ acres ☐ mi2 ☐ %	Product of CN x Area
116-D	Open Space (Grass Cover, Fair condition)	84	0.95	79.80
116-D	Impervious Areas (Paved Areas & Roofs)	98	0.00	0.00

(1) Use only one CN source per line

TOTAL: 0.95 | 79.80

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{79.80}{0.95} = 84.00 \text{ ; USE CN } \boxed{84}$$

2 of 2

Sheet flow

Sheet flow is flow over plane surfaces. It usually occurs in the headwater of streams. With sheet flow, the friction value (Manning's n) is an effective roughness coefficient that includes the effect of raindrop impact; drag over the plane surface; obstacles such as litter, crop ridges, and rocks; and erosion and transportation of sediment. These n values are for very shallow flow depths of about 0.1 foot or so. Table 3-1 gives Manning's n values for sheet flow for various surface conditions.

Table 3-1 Roughness coefficients (Manning's n) for sheet flow

Surface description	n [1]
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover ≤20%	0.06
Residue cover >20%	0.17
Grass:	
Short grass prairie	0.15
Dense grasses [2]	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods: [3]	
Light underbrush	0.40
Dense underbrush	0.80

1 The n values are a composite of information compiled by Engman (1986).

2 Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.

3 When selecting n, consider cover to a height of about 0.1 ft. This is the only part of the plant cover that will obstruct sheet flow.

TABLE 3-1
ROUGHNESS COEFFICIENTS FOR SHEET FLOW

For sheet flow of less than 300 feet, use Manning's kinematic solution (Overtop and Meadows 1976) to compute T_t:

$$T_t = \frac{0.007(nL)^{0.8}}{(P_2)^{0.5} s^{0.4}} \quad \text{[eq. 3-3]}$$

where:

T_t = travel time (hr),
n = Manning's roughness coefficient (table 3-1)
L = flow length (ft)
P_2 = 2-year, 24-hour rainfall (in)
s = slope of hydraulic grade line (land slope, ft/ft)

This simplified form of the Manning's kinematic solution is based on the following: (1) shallow steady uniform flow, (2) constant intensity of rainfall excess (that part of a rain available for runoff), (3) rainfall duration of 24 hours, and (4) minor effect of infiltration on travel time. Rainfall depth can be obtained from appendix B.

Shallow concentrated flow

After a maximum of 300 feet, sheet flow usually becomes shallow concentrated flow. The average velocity for this flow can be determined from figure 3-1, in which average velocity is a function of watercourse slope and type of channel. For slopes less than 0.005 ft/ft, use equations given in appendix F for figure 3-1. Tillage can affect the direction of shallow concentrated flow. Flow may not always be directly down the watershed slope if tillage runs across the slope.

After determining average velocity in figure 3-1, use equation 3-1 to estimate travel time for the shallow concentrated flow segment.

Open channels

Open channels are assumed to begin where surveyed cross section information has been obtained, where channels are visible on aerial photographs, or where blue lines (indicating streams) appear on United States Geological Survey (USGS) quadrangle sheets. Manning's equation or water surface profile information can be used to estimate average flow velocity. Average flow velocity is usually determined for bankfull elevation.

FREQUENCY	RAINFALL DEPTH/STORM DURATION, INCHES									
	5 M	15 M	1 HR	2 HR	3 HR	6 HR	12 HR	24 HR	2 D	4 D
2-YR	0.15	0.27	0.57	0.82	1.02	1.50	1.98	2.45	3.12	4.03
5-YR	0.20	0.38	0.80	1.16	1.42	2.12	2.79	3.44	4.51	5.77
10-YR	0.25	0.46	0.97	1.39	1.70	2.53	3.33	4.12	5.42	6.94
25-YR	0.30	0.56	1.16	1.66	2.04	3.03	4.00	4.95	6.63	8.38
50-YR	0.32	0.62	1.30	1.87	2.29	3.40	4.48	5.56	7.49	9.44
100-YR	0.36	0.69	1.44	2.07	2.54	3.76	4.96	6.14	8.33	10.45
500-YR	0.45	0.85	1.78	2.55	3.14	4.67	6.15	7.60	10.50	13.01

CHART IS FROM CITY OF NAPA 2006 STORM DRAINAGE MASTER PLAN TABLE 3-2

CITY OF NAPA

PUBLIC WORKS DEPARTMENT

RAINFALL DEPTH - DURATION

DRAWN BY:	BRL	CHECKED BY:	TCW
DATE:	05/2018	APPROVED BY:	JRL
SCALE:	NONE	DRAWING NO.	TABLE-2.2
FIELD NOTES:			

G:\PubWrks\Standard Details - City of Napa\09-Charts, Figures, and Tables\Table 2.2.dwg

122° 19' 2" W
122° 18' 43" W
38° 20' 10" N
38° 20' 0" N

Map Scale: 1:2,120 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Napa County, California
Survey Area Data: Version 10, Sep 25, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2015—Oct 18, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
116	Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14	D	1.2	11.9%
145	Haire loam, 0 to 2 percent slopes	D	9.2	88.1%
Totals for Area of Interest			**10.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

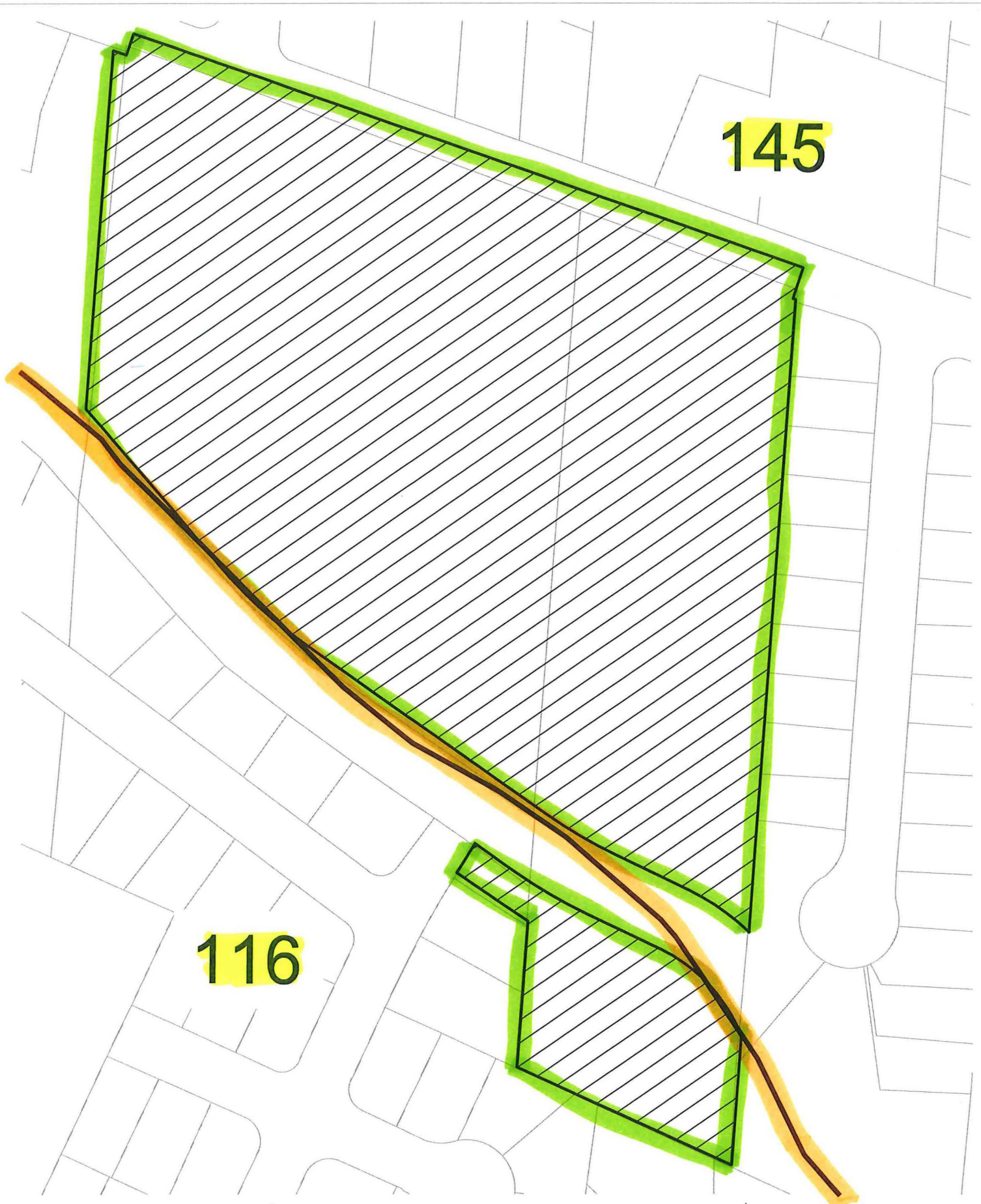
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



SCS SOIL CLASSIFICATION EXHIBIT
FOR PRELIMINARY
DETENTION SYSTEM CALCULATION

12. Pipe sizes.

As noted in Table 2.1, several options are available for use in estimating discharge for storm events. Table 2.2 provides the Design Depth Frequency (DDF) for selected storms and Table 2.3 shows Rainfall Intensity Duration.

TABLE 2.2 – RAINFALL DEPTH (DURATION)

	RAINFALL DEPTH/STORM DURATION (INCHES)									
DDF	**5M**	**15M**	**1HR**	**2HR**	**3HR**	**6HR**	**12 HR**	**24 HR**	**2D**	**4D**
2-YR	0.15	0.27	0.57	0.82	1.02	1.50	1.98	2.45	3.12	4.03
5-YR	0.20	0.38	0.80	1.16	1.42	2.12	2.79	3.44	4.51	5.77
10-YR	0.25	0.46	0.97	1.39	1.70	2.53	3.33	4.12	5.42	6.94
25-YR	0.30	0.56	1.16	1.66	2.04	3.03	4.00	4.95	6.63	8.38
50-YR	0.32	0.62	1.30	1.87	2.29	3.40	4.48	5.56	7.49	9.44
100-YR	0.36	0.69	1.44	2.07	2.54	3.76	4.96	6.14	8.33	10.45
500-YR	0.45	0.85	1.78	2.55	3.14	4.67	6.15	7.60	10.50	13.01

Source: City of Napa 2006 Storm Drainage Master Plan Table 3-1

TABLE 2.3 – RAINFALL INTENSITY (DURATION)

	RAINFALL DEPTH/STORM DURATION (INCHES PER HOUR)									
DDF	**5M**	**15M**	**1HR**	**2HR**	**3HR**	**6HR**	**12 HR**	**24 HR**	**2D**	**4D**
2-YR	1.80	1.08	0.80	0.41	0.34	0.25	0.16	0.10	0.06	0.04
5-YR	2.40	1.52	0.08	0.58	0.47	0.35	0.23	0.14	0.09	0.06
10-YR	3.00	1.84	0.97	0.70	0.57	0.42	0.28	0.17	0.11	0.07
25-YR	3.60	2.24	1.16	0.83	0.68	0.50	0.33	0.20	0.14	0.08
50-YR	3.84	2.48	1.30	0.94	0.76	0.57	0.37	0.23	0.16	0.10
100-YR	4.32	2.76	1.44	1.04	0.84	0.63	0.41	0.26	0.17	0.11
500-YR	5.40	3.40	1.78	1.28	1.04	0.78	0.51	0.32	0.22	0.14

Source: City of Napa 2006 Storm Drainage Master Plan Table 3-2

A. Rational Method

The 10-and 100-year peak runoff shall be determined for each analysis point using the Rational Method. The Rational Method provides reasonable estimates of peak runoff for small watersheds. The method relates a peak discharge for the project site, a runoff coefficient (C), and rainfall intensity (i). Runoff coefficients were found to vary between 0.35 and 0.90 for land use and storm frequency.

The Rational Method equation has the form: Q = CiA

Where:

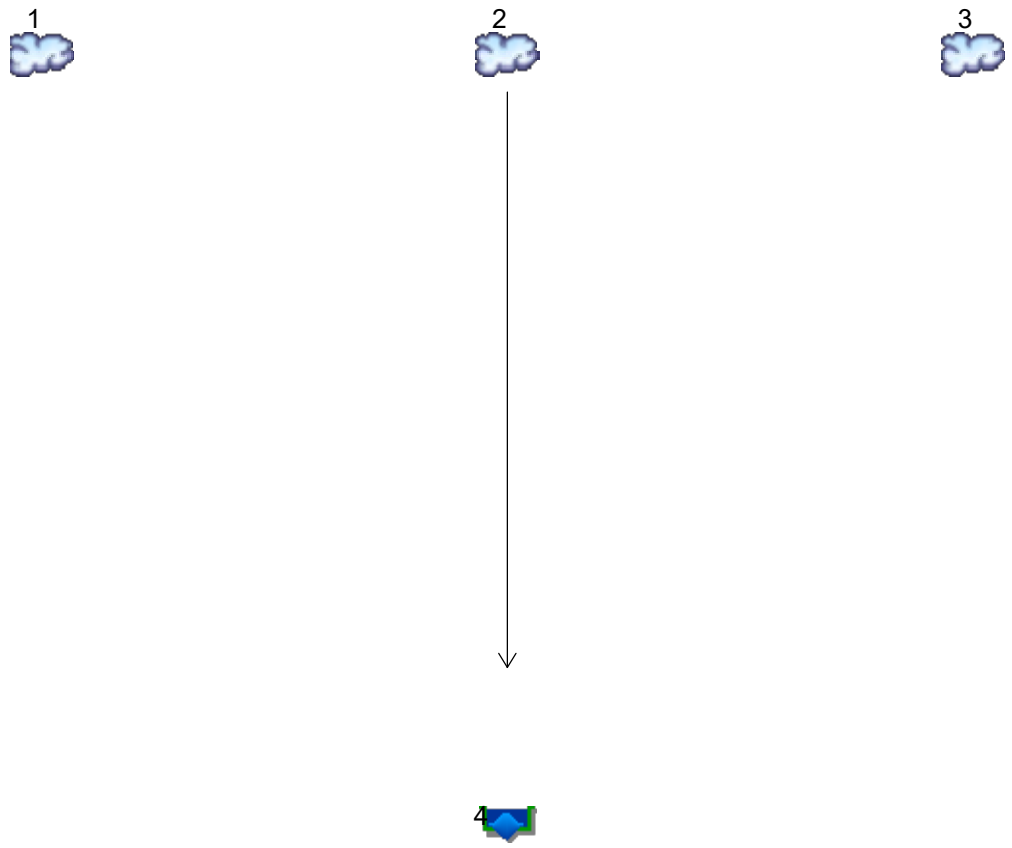
Q = rate of runoff, acre-inches per hour or cubic feet per second

C = runoff coefficient, which is the ratio of peak runoff to average rainfall intensity

Appendix C

Detention Calculations using Hydraflow

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	Existing 100-yr Watershed 1
2	SCS Runoff	Proposed Pre-Routed 100-yr Watershed 1
3	SCS Runoff	Proposed Undetained 100-yr Watershed 1
4	Reservoir	DETAINED ROUTED (100)

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	8.663	Existing 100-yr Watershed 1
2	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	9.121	Proposed Pre-Routed 100-yr Watersh
3	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	2.698	Proposed Undetained 100-yr Watersh
4	Reservoir	2	-------	-------	-------	-------	-------	-------	-------	5.912	DETAINED ROUTED (100)

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

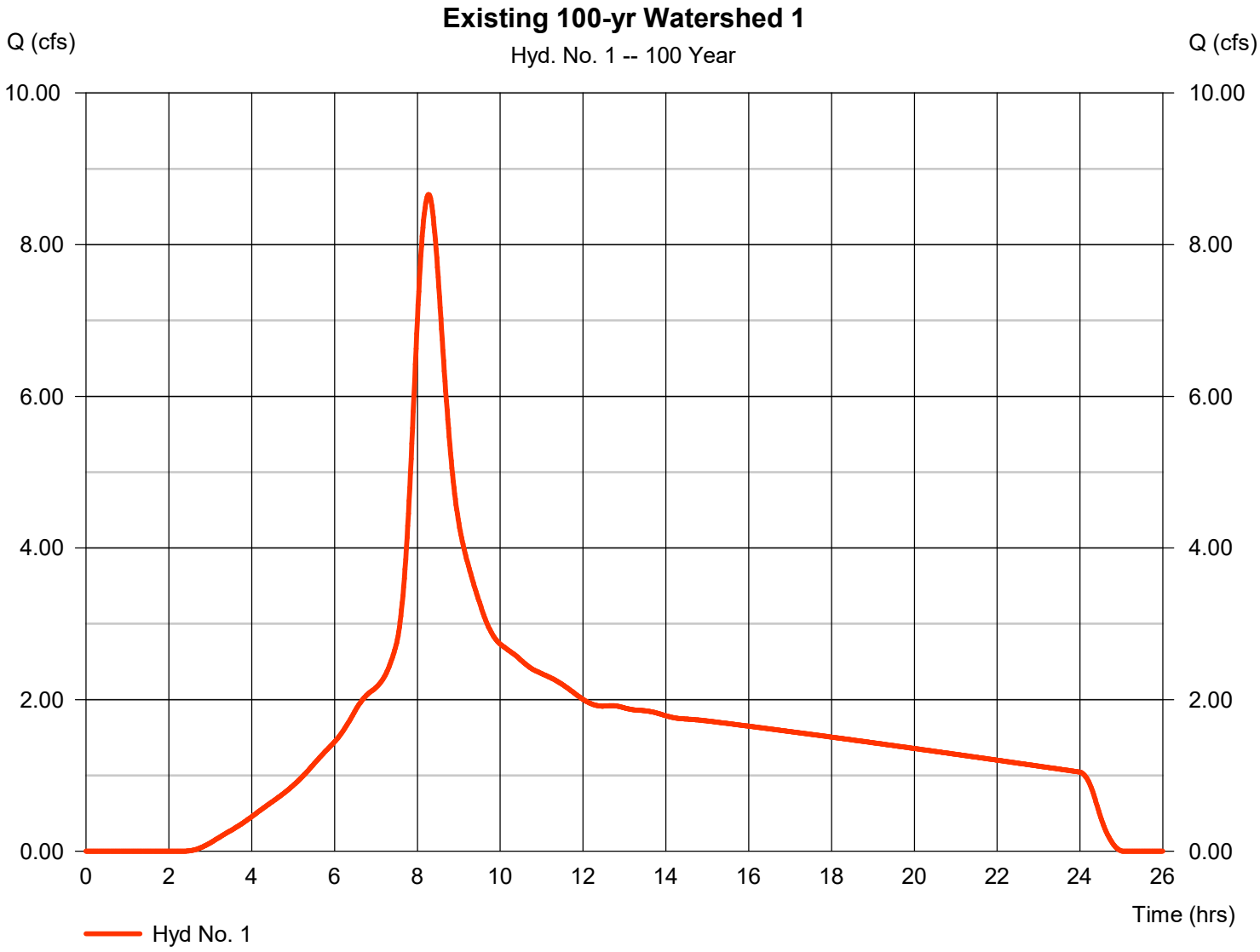
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	8.663	1	496	147,137	------	------	------	Existing 100-yr Watershed 1
2	SCS Runoff	9.121	1	477	127,455	------	------	------	Proposed Pre-Routed 100-yr Watersh
3	SCS Runoff	2.698	1	492	43,474	------	------	------	Proposed Undetained 100-yr Watersh
4	Reservoir	5.912	1	493	119,651	2	68.94	16,710	DETAINED ROUTED (100)

Hydrograph Report

Hyd. No. 1

Existing 100-yr Watershed 1

Hydrograph type	= SCS Runoff	Peak discharge	= 8.663 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.27 hrs
Time interval	= 1 min	Hyd. volume	= 147,137 cuft
Drainage area	= 9.140 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 40.50 min
Total precip.	= 6.14 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

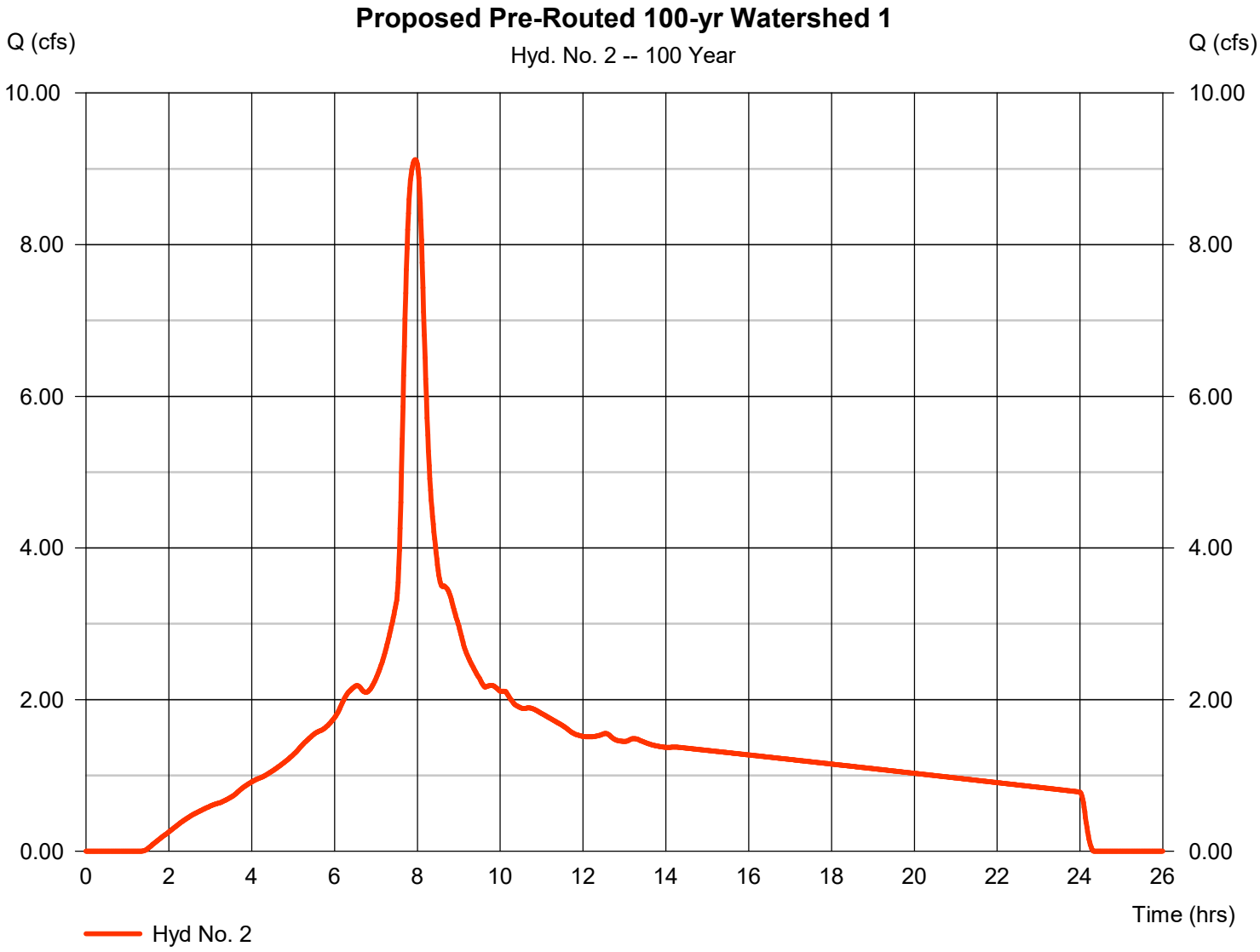


Hydrograph Report

Hyd. No. 2

Proposed Pre-Routed 100-yr Watershed 1

Hydrograph type	= SCS Runoff	Peak discharge	= 9.121 cfs
Storm frequency	= 100 yrs	Time to peak	= 7.95 hrs
Time interval	= 1 min	Hyd. volume	= 127,455 cuft
Drainage area	= 6.850 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.30 min
Total precip.	= 6.14 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

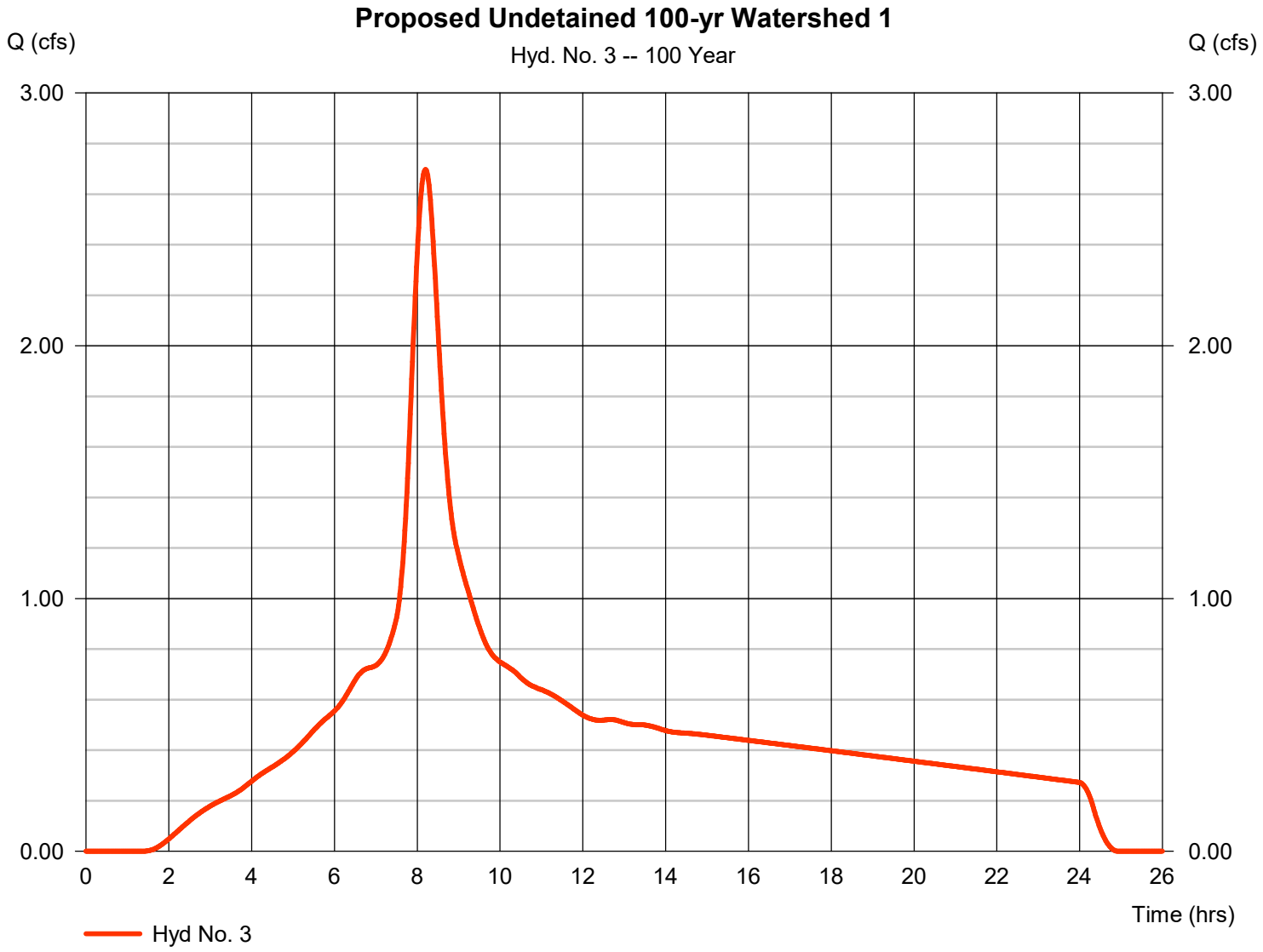


Hydrograph Report

Hyd. No. 3

Proposed Undetained 100-yr Watershed 1

Hydrograph type	= SCS Runoff	Peak discharge	= 2.698 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.20 hrs
Time interval	= 1 min	Hyd. volume	= 43,474 cuft
Drainage area	= 2.300 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.20 min
Total precip.	= 6.14 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



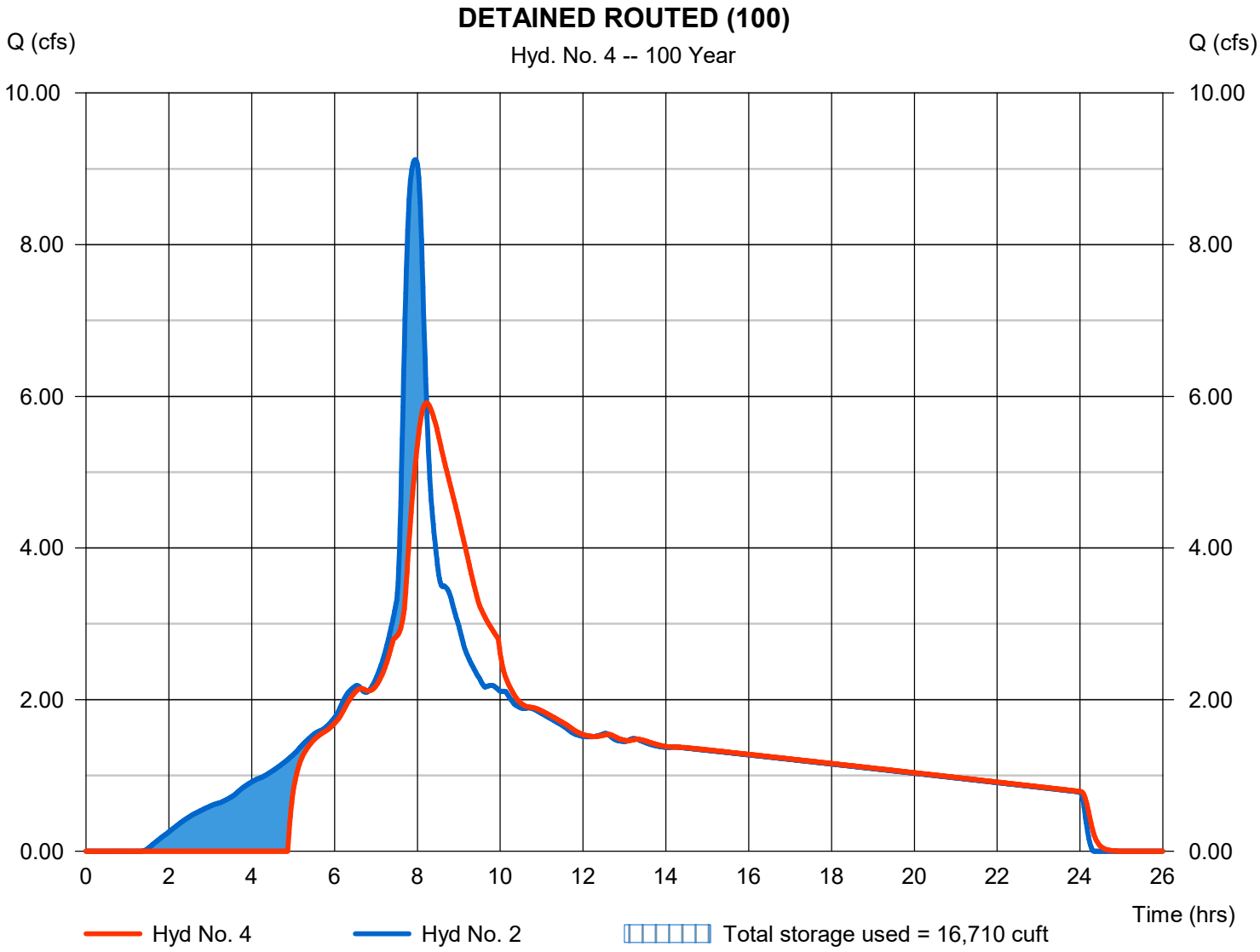
Hydrograph Report

Hyd. No. 4

DETAINED ROUTED (100)

Hydrograph type	=	Reservoir	Peak discharge	=	5.912 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.22 hrs
Time interval	=	1 min	Hyd. volume	=	119,651 cuft
Inflow hyd. No.	=	2 - Proposed Pre-Routed 100-yr Watershed 1	Max. Elevation	=	68.94 ft
Reservoir name	=	DETENTION BASIN 1	Max. Storage	=	16,710 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - DETENTION BASIN 1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 66.80 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	66.80	7,804	0	0
1.00	67.80	7,804	7,803	7,803
2.70	69.60	7,804	13,265	21,069

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 9.20	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 67.30	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 67.80

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	66.80	0.00	---	---	---	---	---	---	---	---	---	0.000
1.00	7,803	67.80	0.00	---	---	---	---	---	---	---	---	---	0.000
2.70	21,069	69.60	7.43 ic	---	---	---	---	---	---	---	---	---	7.429

Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	5.1978	2.3000	0.5349	--------
3	0.0000	0.0000	0.0000	--------
5	0.0000	0.0000	0.0000	--------
10	12.1604	5.1000	0.6055	--------
25	16.1806	5.9000	0.6293	--------
50	0.0000	0.0000	0.0000	--------
100	22.1077	7.4000	0.6487	--------

File name: NAPA.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1.79	1.36	1.13	0.99	0.89	0.81	0.75	0.70	0.66	0.63	0.60	0.57
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	3.00	2.35	1.98	1.73	1.55	1.41	1.30	1.21	1.14	1.07	1.02	0.97
25	3.60	2.84	2.39	2.09	1.87	1.70	1.57	1.46	1.36	1.29	1.22	1.16
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	4.32	3.47	2.94	2.58	2.32	2.11	1.94	1.81	1.70	1.60	1.51	1.44

Tc = time in minutes. Values may exceed 60.

Precip. file name: NAPA.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	2.45	0.00	3.44	4.12	4.95	5.56	6.14
SCS 6-Hr	0.00	1.50	0.00	2.12	2.53	3.03	3.40	3.76
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hydraflow Table of Contents

Watershed Model Schematic..... 1

Hydrograph Return Period Recap..... 2

100 - Year

Summary Report..... 3

Hydrograph Reports..... 4

Hydrograph No. 1, SCS Runoff, Existing 100-yr Watershed 1..... 4

Hydrograph No. 2, SCS Runoff, Proposed Pre-Routed 100-yr Watershed 1..... 5

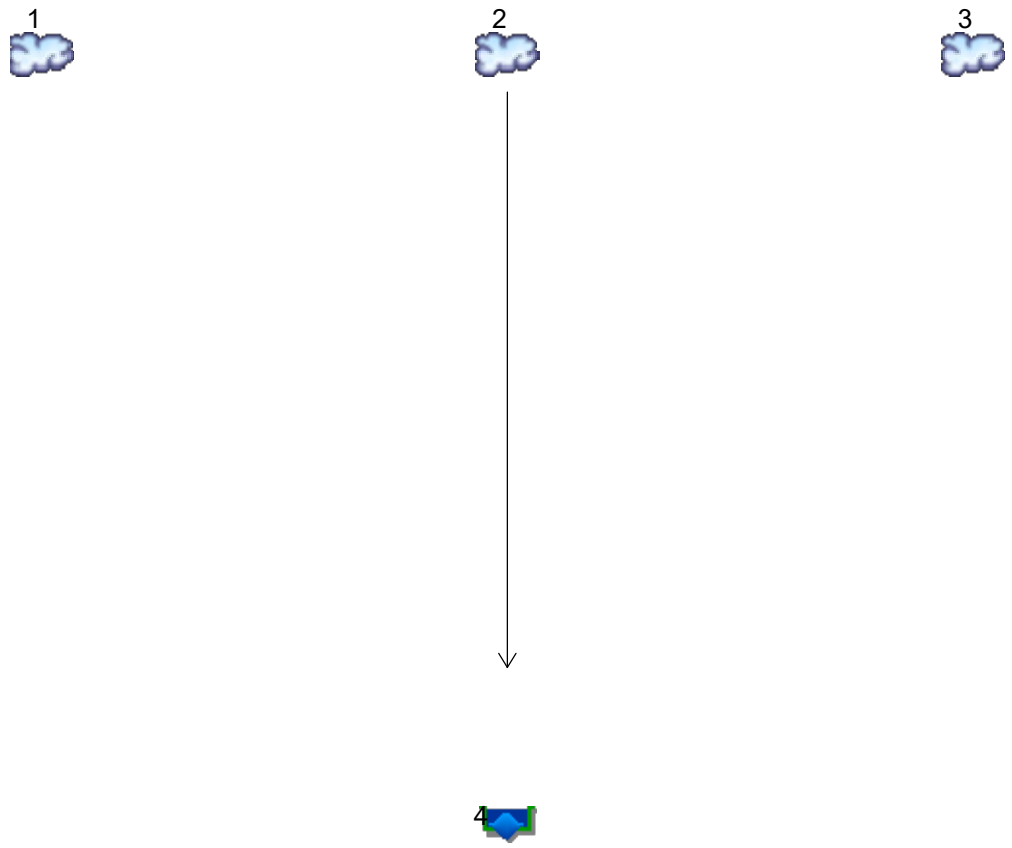
Hydrograph No. 3, SCS Runoff, Proposed Undetained 100-yr Watershed 1..... 6

Hydrograph No. 4, Reservoir, DETAINED ROUTED (100)..... 7

Pond Report - DETENTION BASIN 1..... 8

IDF Report..... 9

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	Existing 100-yr Watershed 2
2	SCS Runoff	Proposed Pre-Routed 100-yr Watershed 2
3	SCS Runoff	Proposed Undetained 100-yr Watershed 2
4	Reservoir	DETAINED ROUTED (100)

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	1.035	Existing 100-yr Watershed 2
2	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	0.837	Proposed Pre-Routed 100-yr Watersh
3	SCS Runoff	------	-------	-------	-------	-------	-------	-------	-------	0.411	Proposed Undetained 100-yr Watersh
4	Reservoir	2	-------	-------	-------	-------	-------	-------	-------	0.563	DETAINED ROUTED (100)

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

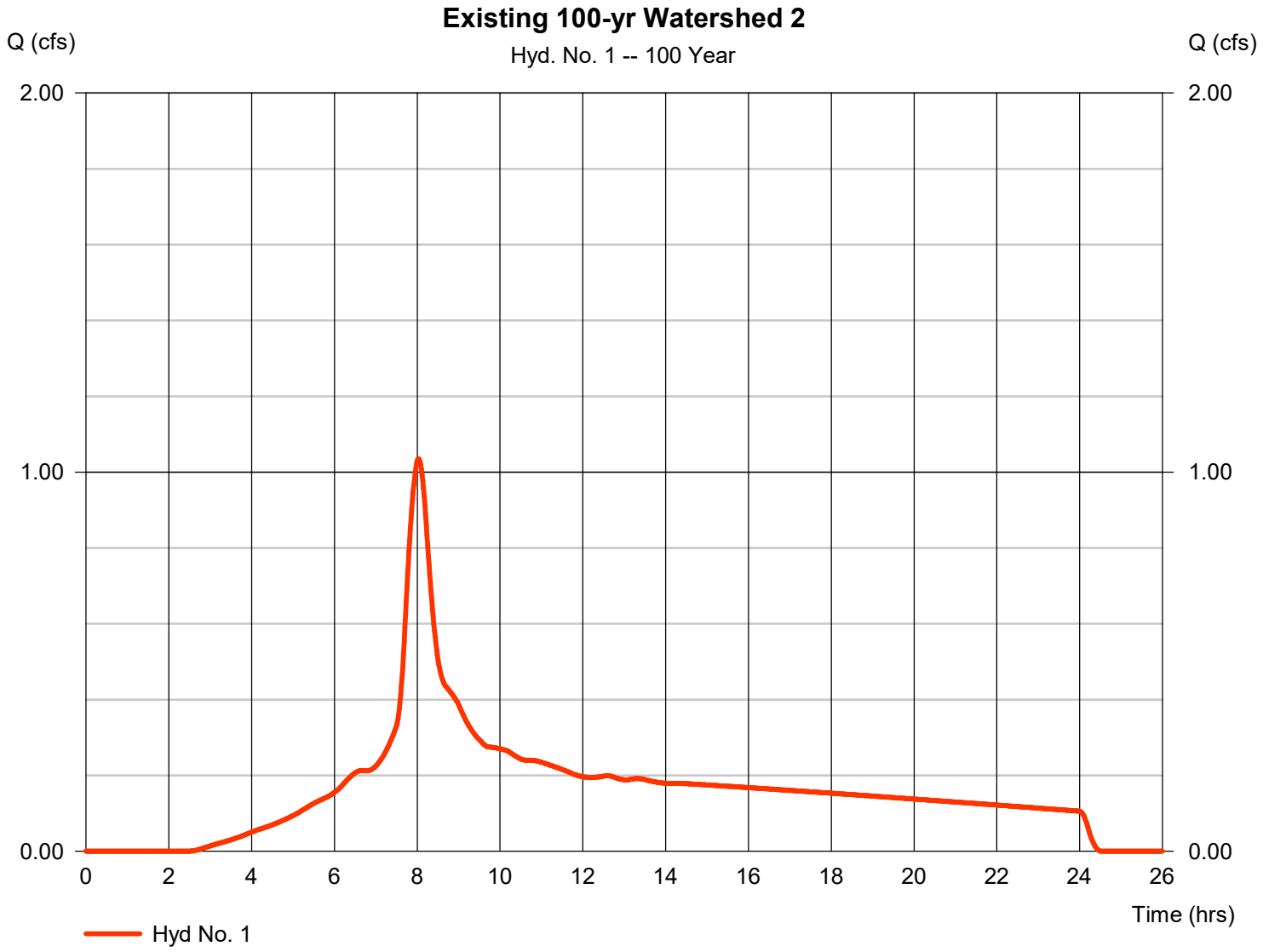
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.035	1	482	14,924	------	------	------	Existing 100-yr Watershed 2
2	SCS Runoff	0.837	1	473	11,611	------	------	------	Proposed Pre-Routed 100-yr Watersh
3	SCS Runoff	0.411	1	485	6,049	------	------	------	Proposed Undetained 100-yr Watersh
4	Reservoir	0.563	1	488	10,670	2	68.91	1,740	DETAINED ROUTED (100)

Hydrograph Report

Hyd. No. 1

Existing 100-yr Watershed 2

Hydrograph type	= SCS Runoff	Peak discharge	= 1.035 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.03 hrs
Time interval	= 1 min	Hyd. volume	= 14,924 cuft
Drainage area	= 0.950 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.10 min
Total precip.	= 6.14 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

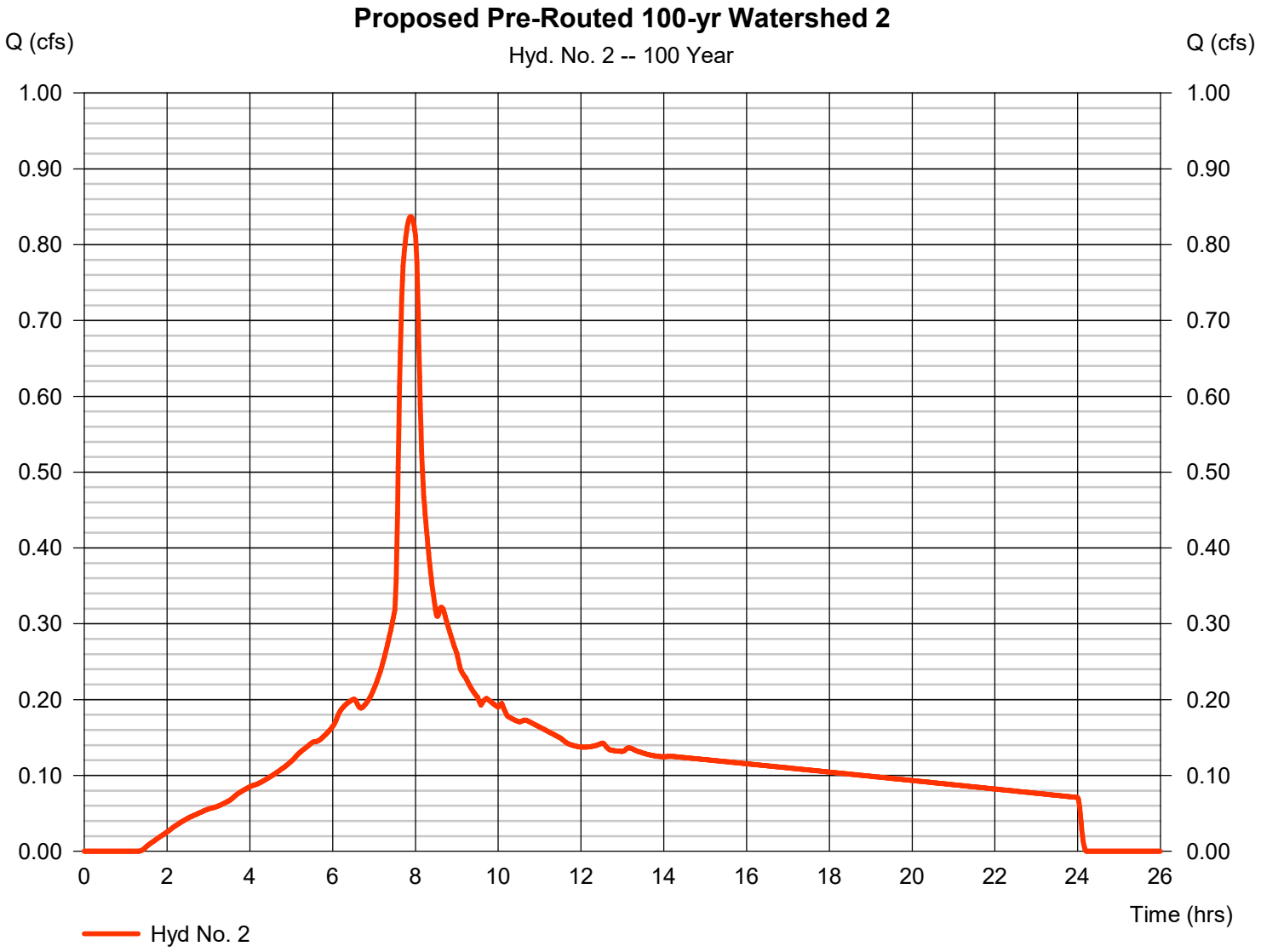


Hydrograph Report

Hyd. No. 2

Proposed Pre-Routed 100-yr Watershed 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.837 cfs
Storm frequency	= 100 yrs	Time to peak	= 7.88 hrs
Time interval	= 1 min	Hyd. volume	= 11,611 cuft
Drainage area	= 0.630 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.30 min
Total precip.	= 6.14 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

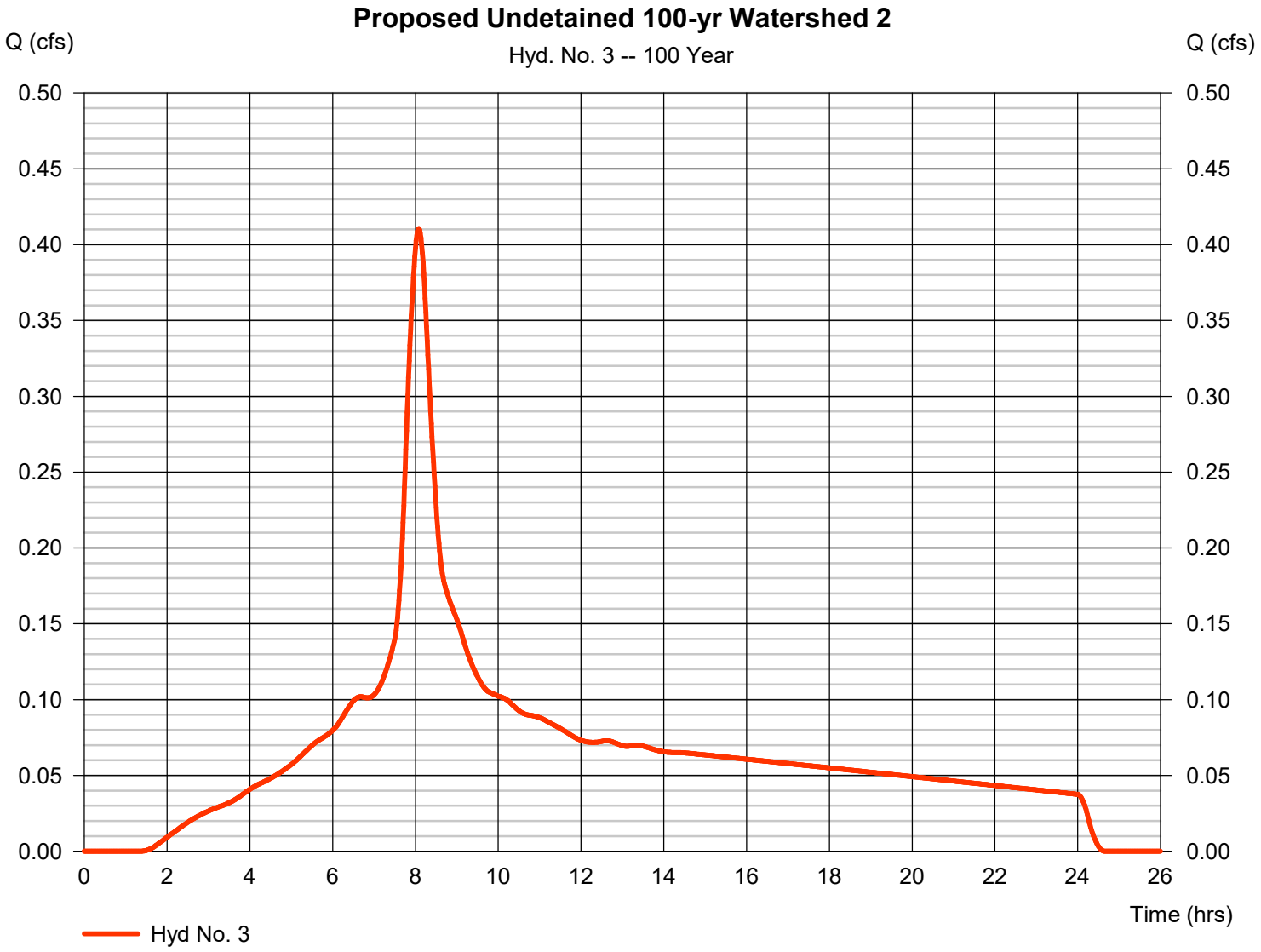


Hydrograph Report

Hyd. No. 3

Proposed Undetained 100-yr Watershed 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.411 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.08 hrs
Time interval	= 1 min	Hyd. volume	= 6,049 cuft
Drainage area	= 0.320 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.70 min
Total precip.	= 6.14 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



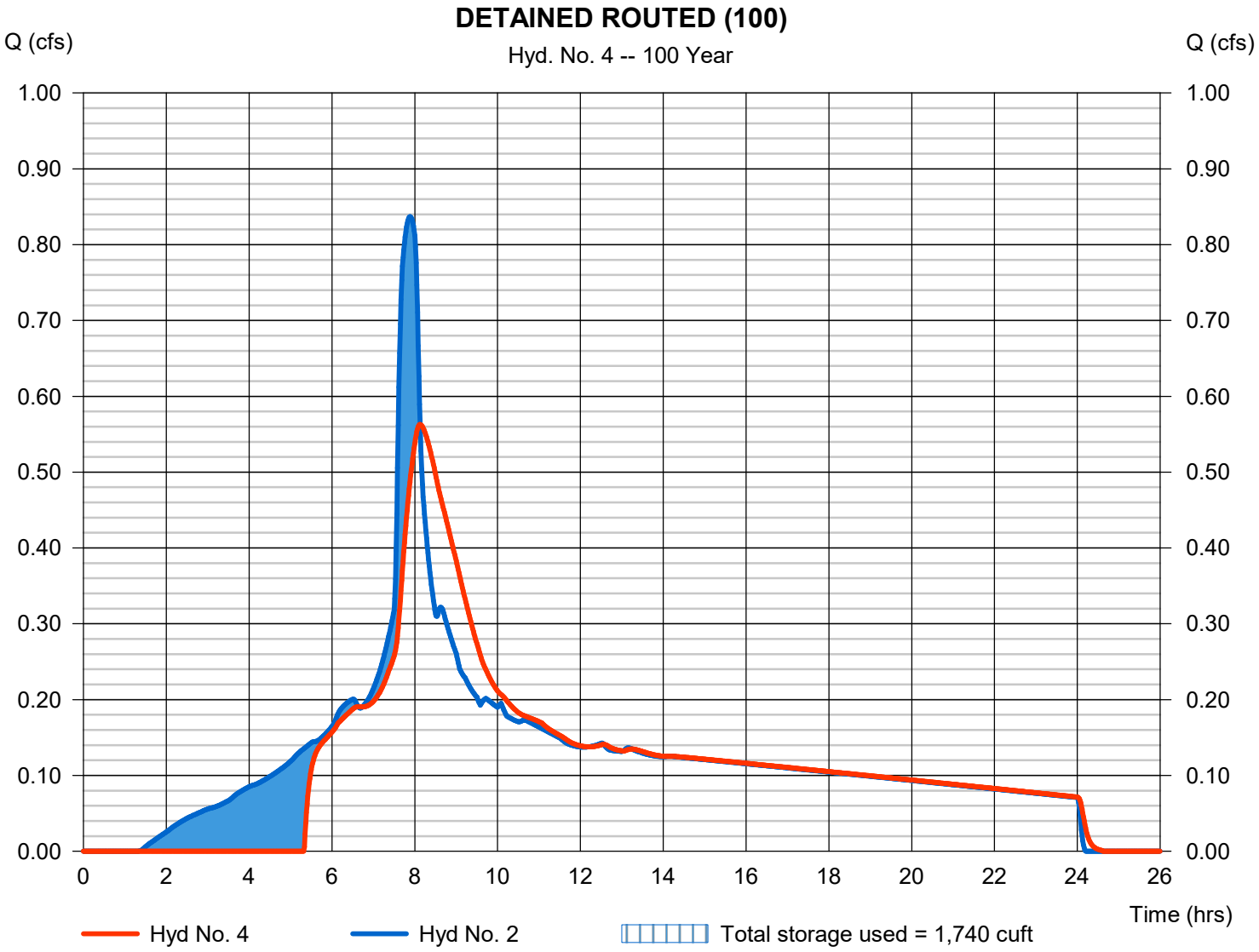
Hydrograph Report

Hyd. No. 4

DETAINED ROUTED (100)

Hydrograph type	=	Reservoir	Peak discharge	=	0.563 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.13 hrs
Time interval	=	1 min	Hyd. volume	=	10,670 cuft
Inflow hyd. No.	=	2 - Proposed Pre-Routed 100-year Event	Max. Elevation	=	68.91 ft
Reservoir name	=	DETENTION BASIN 2	Max. Storage	=	1,740 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - DETENTION BASIN 2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 66.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	66.50	723	0	0
0.50	67.00	723	361	361
1.50	68.00	723	723	1,084
2.00	68.50	723	361	1,446
2.50	69.00	723	361	1,807
2.80	69.30	723	217	2,024

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 2.00	0.00	0.00	0.00
Span (in)	= 8.00	0.00	0.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 67.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 67.80

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	66.50	0.00	---	---	---	---	---	---	---	---	---	0.000
0.50	361	67.00	0.00	---	---	---	---	---	---	---	---	---	0.000
1.50	1,084	68.00	0.24 ic	---	---	---	---	---	---	---	---	---	0.239
2.00	1,446	68.50	0.45 ic	---	---	---	---	---	---	---	---	---	0.448
2.50	1,807	69.00	0.59 ic	---	---	---	---	---	---	---	---	---	0.586
2.80	2,024	69.30	0.66 ic	---	---	---	---	---	---	---	---	---	0.655

Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	5.1978	2.3000	0.5349	--------
3	0.0000	0.0000	0.0000	--------
5	0.0000	0.0000	0.0000	--------
10	12.1604	5.1000	0.6055	--------
25	16.1806	5.9000	0.6293	--------
50	0.0000	0.0000	0.0000	--------
100	22.1077	7.4000	0.6487	--------

File name: NAPA.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1.79	1.36	1.13	0.99	0.89	0.81	0.75	0.70	0.66	0.63	0.60	0.57
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	3.00	2.35	1.98	1.73	1.55	1.41	1.30	1.21	1.14	1.07	1.02	0.97
25	3.60	2.84	2.39	2.09	1.87	1.70	1.57	1.46	1.36	1.29	1.22	1.16
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	4.32	3.47	2.94	2.58	2.32	2.11	1.94	1.81	1.70	1.60	1.51	1.44

Tc = time in minutes. Values may exceed 60.

Precip. file name: NAPA.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	2.45	0.00	3.44	4.12	4.95	5.56	6.14
SCS 6-Hr	0.00	1.50	0.00	2.12	2.53	3.03	3.40	3.76
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hydraflow Table of Contents

DB2-100yrDetention Minus BRF Tc.gpw

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Thursday, 07 / 6 / 2023

Watershed Model Schematic..... 1

Hydrograph Return Period Recap..... 2

100 - Year

Summary Report..... 3

Hydrograph Reports..... 4

Hydrograph No. 1, SCS Runoff, Existing 100-yr Watershed 2..... 4

Hydrograph No. 2, SCS Runoff, Proposed Pre-Routed 100-yr Watershed 2..... 5

Hydrograph No. 3, SCS Runoff, Proposed Undetained 100-yr Watershed 2..... 6

Hydrograph No. 4, Reservoir, DETAINED ROUTED (100)..... 7

Pond Report - DETENTION BASIN 2..... 8

IDF Report..... 9

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FCS
An ADEC Innovation

F.3 - Hydraulic Analysis

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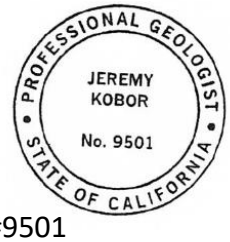
October 26, 2023

TO: Derek Dittman, P.E.
RSA+ Civil Engineers



FROM: _____
Jeremy Kobor, Senior Hydrologist, PG #9501

Matt O'Connor, President, CEG #2449
O'Connor Environmental, Inc.

SUBJECT: Hydraulic Analysis of the Proposed Zinfandel Estate Subdivision

Introduction

This document supersedes the previous hydraulic analysis submitted for the project dated May 4, 2021. Detailed in-channel water surface elevation results are presented in Appendix A and responses to review comments by River Focus Water Resources Consultants received June 9, 2021, are presented in Appendix B.

RSA+ has developed several alternative design concepts for the proposed Zinfandel Estate Subdivision adjacent to Salvador Creek on APNs 038-361-009 & 038-361-010. The designs involve elevating portions of the subject properties above 100-yr flood elevations along with measures to mitigate against potential increases in flooding associated with the loss of floodplain. A MIKE FLOOD hydraulic model of the creek and floodplains was developed by DHI, Inc. and the Napa County Resource Conservation District in 2008. This model served as the basis for developing 100-yr Base Flood Elevations (BFEs) and FEMA Flood Insurance Rate Maps (FIRMs) in 2010. The 2010 BFEs and FIRMs were later revised with an effective date of February 20th, 2012 and they provide the basis for defining pre-project hydraulic conditions. The existing model was used to evaluate two alternative design concepts leading to selection of a preferred design alternative. A geomorphic assessment was also performed to evaluate the stability and likely maintenance requirements associated with the preferred design; the geomorphic assessment is presented in a separate technical memorandum. Given that the proposed preferred alternative presented here is very similar to the original preferred alternative evaluated in the May 4, 2021 geomorphic assessment, this document was not revised.

Limitations

The modeling analysis is based on an existing hydraulic model originally developed in 2008. This model uses channel cross sections that were surveyed in 2002 and 2005 and LiDAR data for the floodplain that was collected in 2002. The existing and proposed topography in the model outside of the proposed work area was retained since it was used to define the existing FEMA regulatory floodplain and thus serves as the baseline for evaluating proposed project effects. It is noted that these topographic data sources are relatively old and that a higher-resolution 2018 LiDAR dataset is now available which could be used for a revised study of the system in the future

(a task beyond the scope of this parcel-specific project). In the absence of a revised study, it is important to acknowledge the uncertainty associated with the analysis due to the age of the off-site topographic information and potential changes in channel morphology or floodplain development that may have occurred since 2002. For example, field observations in early 2021 revealed the presence of a beaver dam at Lassen Street and evidence of beaver activity downstream of Lassen Street.

Design Alternatives

Both designs include removal of the Biale footbridge and retention/upgrades to the south bank pathway/access road in addition to the features discussed below.

Alternative 1: This design elevates most of the floodplain above the 100-yr BFE and allows for shallow street flooding on both sides of the creek (Figure 1).

Alternative 2: This design reduces the area of elevated floodplain and creates ~830 lineal feet of terracing on the north bank and ~450 lineal feet on the south bank. Street flooding is excluded on the north bank but retained on the south bank (Figure 2).

Figure 1: Design plans provided by RSA+ for Alternative 1.

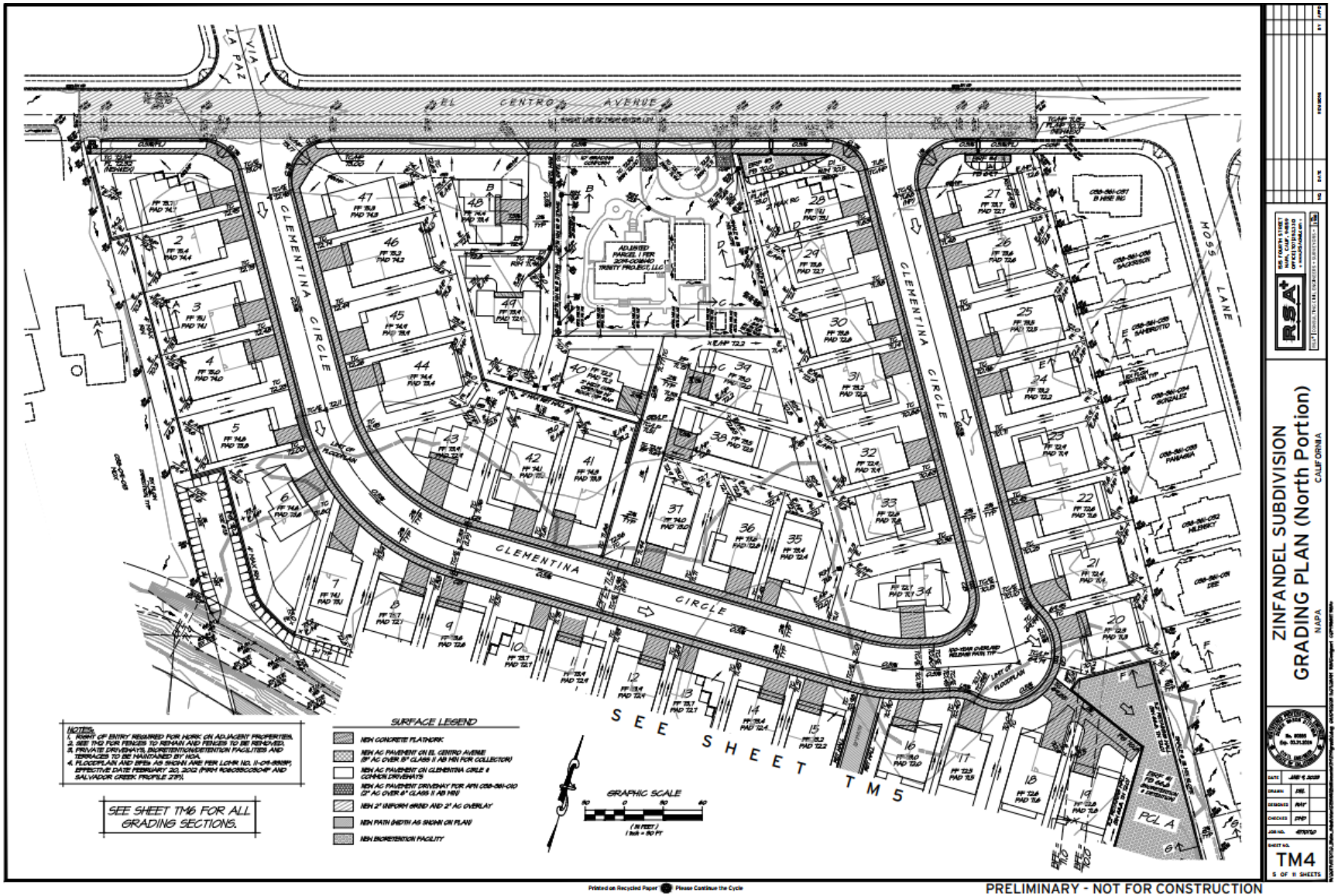


Figure 2a: Design plans provided by RSA+ for Alternative 2 (north section).

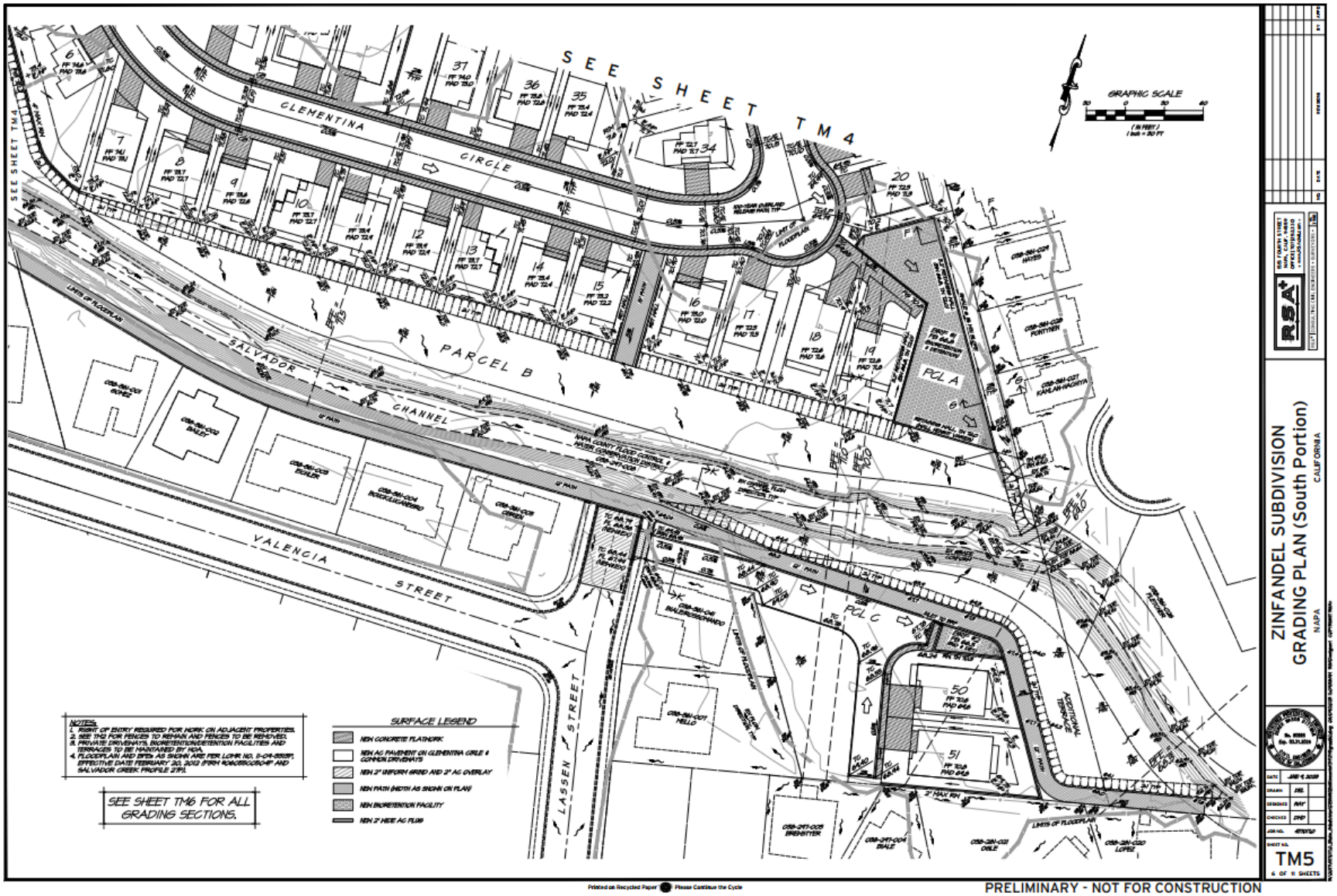


Figure 2b: Design plans provided by RSA+ for Alternative 2 (south section).

Hydrologic Model Development

Hydrologic models for the December 2005 flood and the 100-yr flood were developed previously as part of the 2008 flood study. To enable evaluation of the proposed design alternatives over a wider range of flow conditions, new hydrologic models were developed for the 2- and 10-yr floods using the hydrologic model parameters developed previously for the other flood events in combination with NOAA ATLAS 14 24-hr duration rainfall depths and an SCS Type 1A distribution (same procedure used previously to simulate the 100-yr flood). Resulting peak flows contributing to the project reach range from 1,277 cfs during the 2-yr event to 3,934 cfs for the 100-yr flood (Figure 3).

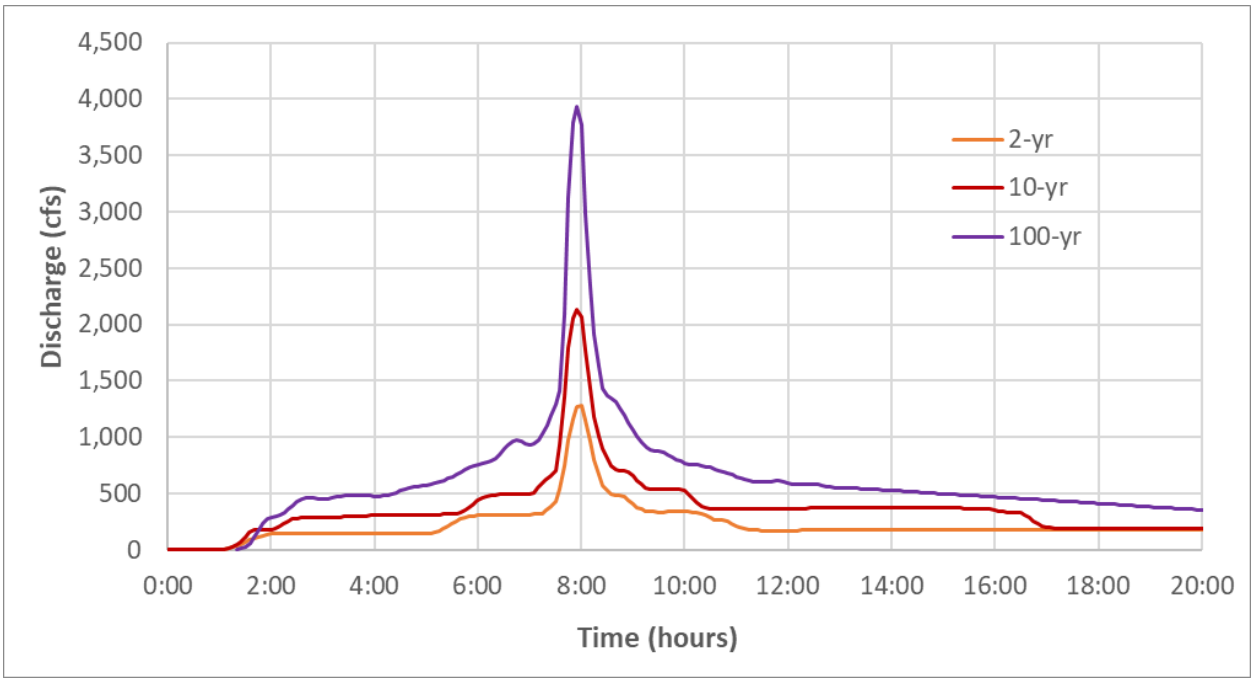


Figure 3: Simulated runoff hydrographs contributing to the project reach of Salvador Creek for the 2-, 10- and 100-yr flood events.

Hydraulic Model Development

Topographic surfaces representing the finished grade of the proposed design alternatives (Figures 4 & 5) were interpolated from points representing proposed elevations at the project site provided by RSA+. Each alternative includes placement of fill to elevate building sites above the 100-yr floodplain. Excluding the building footprints and proposed roads, finished grades in the development footprint are generally between 1- and 2-ft above existing grade on the north side of the creek and between 2- and 3-ft above existing grade on the south side of the creek. In Alternative 1, the proposed roads on both sides of the creek are designed to be below 100-yr floodplain elevations to allow for some shallow street flooding to help to mitigate offsite impacts. This feature was retained on the south side of the creek in Alternative 2, however roads were not

lowered on the north side of the creek with the entirety of the building envelope on the north side of the creek excluded from the 100-yr floodplain.

In addition to elevating the site, Alternative 2 includes a 50- to 70-ft wide 830-ft long terrace along the north bank of the creek and a 15- to 75-ft wide 450-ft long terrace along the south bank of the creek. The terracing along the south bank extends downstream of the primary project parcels by ~110-ft to include portions of APNs 038-361-026 and -027. Terrace elevations were set based on a field determination of Ordinary High Water performed by RSA+. In most locations, the terrace elevations range from 2 to 4-ft below existing grade. The design also includes the removal of the bridge near the downstream edge of the project area which was referred to as the Biale Bridge in the existing 2008 flood study. Note that the proposed topography on the north side of the creek for Alternative 2 does not include the details of proposed elevated building pads.

To implement the proposed project in the model, the floodplain elevations in the 2-dimensional component of the model were modified by replacing the existing elevations with proposed elevations within the project site. The terraces were also included in the 2-dimensional component of the model. Cross section bank elevations within the 1-dimensional component of the model (which represents the channels) were lowered to correspond with the proposed terrace grades and several new cross sections were interpolated from adjacent cross sections to more accurately capture the transitions between terraced and unterraced reaches. To accommodate the new positions of the top of banks associated with the terrace design, the locations of the transition from 1- to 2-dimensional flow (known as lateral links) were adjusted accordingly. The Biale bridge was also removed from the model.

The existing condition model was re-run with the inclusion of the new interpolated cross sections to ensure that the comparisons between existing and proposed conditions reflect only the proposed changes to the creek and floodplain and not the changes resulting from the change in cross section density in the model. The changes in water surface elevations and inundation extents resulting from the cross section additions were very minor. The original existing conditions model was calibrated using a uniform floodplain roughness of 0.033 and channel roughness that varied in the project reach from 0.06 to 0.10. The terraces will be re-vegetated with native grasses, shrubs, and trees. We selected a roughness value of 0.08 for the terraces to reflect conditions following the establishment and maturation of the new vegetation. No changes are proposed within the active channel below Ordinary High Water therefore the existing in-channel roughness values were retained.

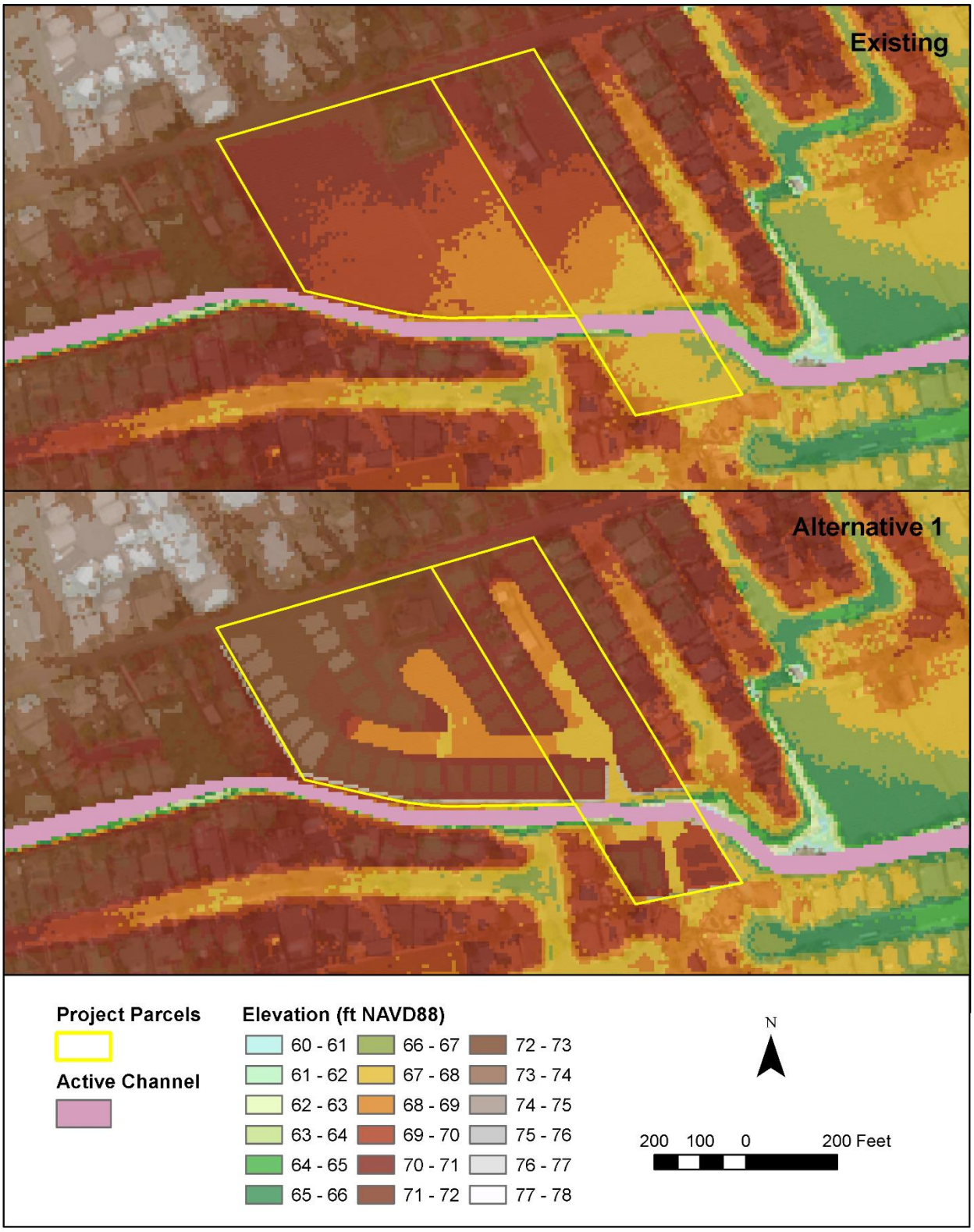


Figure 4: Comparison of existing and proposed topography used in the hydraulic model for Alternative 1.

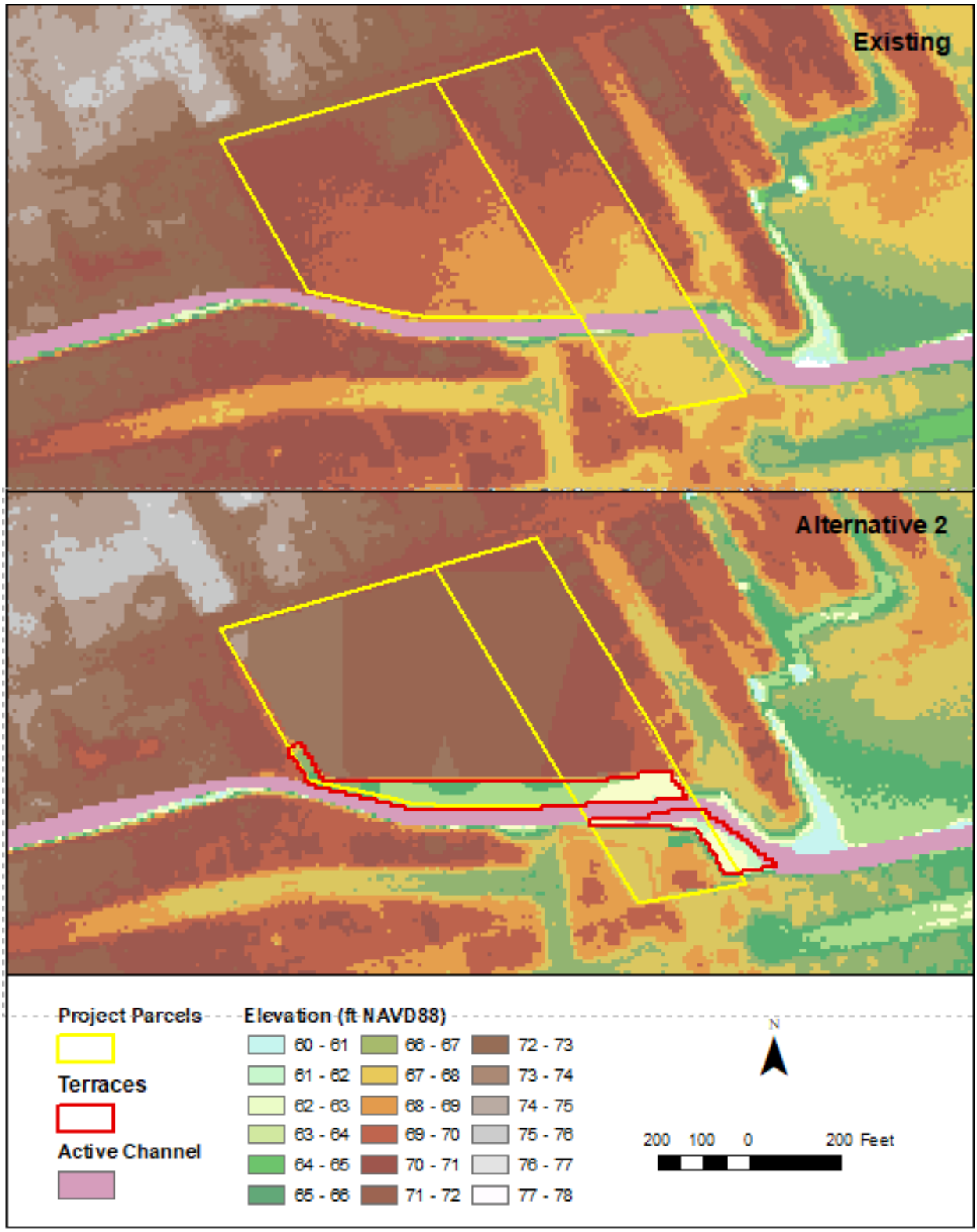


Figure 5: Comparison of existing and proposed topography used in the hydraulic model for Alternative 2. Note proposed grades do not include street and building pad details on the north side of the creek.

Results

Preface

The combination of multiple alternatives, flood events, and various ways to examine the model outputs results in the generation of a very large number of datasets. Results have been summarized for all alternative/event combinations and figures have been included for select combinations that serve to best illustrate the findings of the modeling analysis without overwhelming the reader with information.

Alternative 1

Comparison of maximum water surface elevation (WSE) profiles between the updated existing and proposed Alternative 1 conditions reveals that Alternative 1 produces increases in WSEs upstream of Lassen Street during each of the flow events (Figure 6). The maximum increases range from 0.45 to 0.64-ft (Table 1). This can be attributed to the decrease in floodplain area on the north bank which results in more water remaining in-channel through this reach. Comparison of maximum floodplain inundation extents and depths for the 2- and 100-yr floods shows how the design substantially increases flood extents on the south side of the creek throughout the range of evaluated flows (Figures 7 & 8).

In contrast, the design results in decreases in WSEs downstream of Lassen Street due to the increased overbank flows at Lassen Street which result in less water remaining in-channel to be routed to the downstream reaches (Figure 6). This effect manifests with modest reductions in flood extent downstream of the project parcels on the north side the creek (Figures 7 & 8). Overall, the mean change in WSE over the project reach plus 1,000-ft upstream and downstream is a small decrease of between 0.04 and 0.11-ft (Table 1).

Table 1: Summary of changes in channel water surface elevations for Alternative 1.

		2-yr	10-yr	100-yr
Change in WSE (ft)	Min	-0.33	-0.54	-0.37
	Max	0.45	0.52	0.64
	Mean	-0.05	-0.11	-0.04

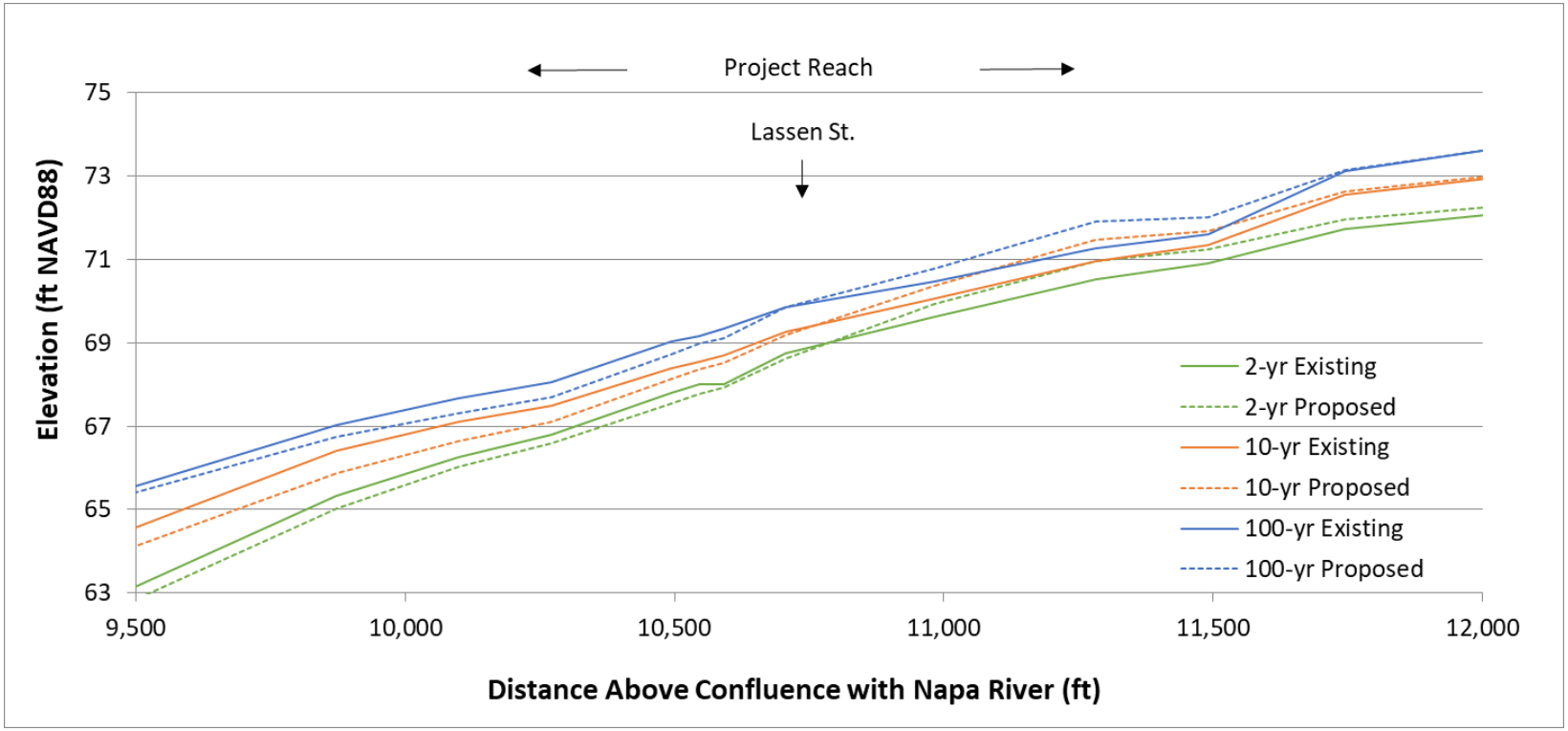


Figure 6: Comparison of existing and proposed water surface profiles for Alternative 1.

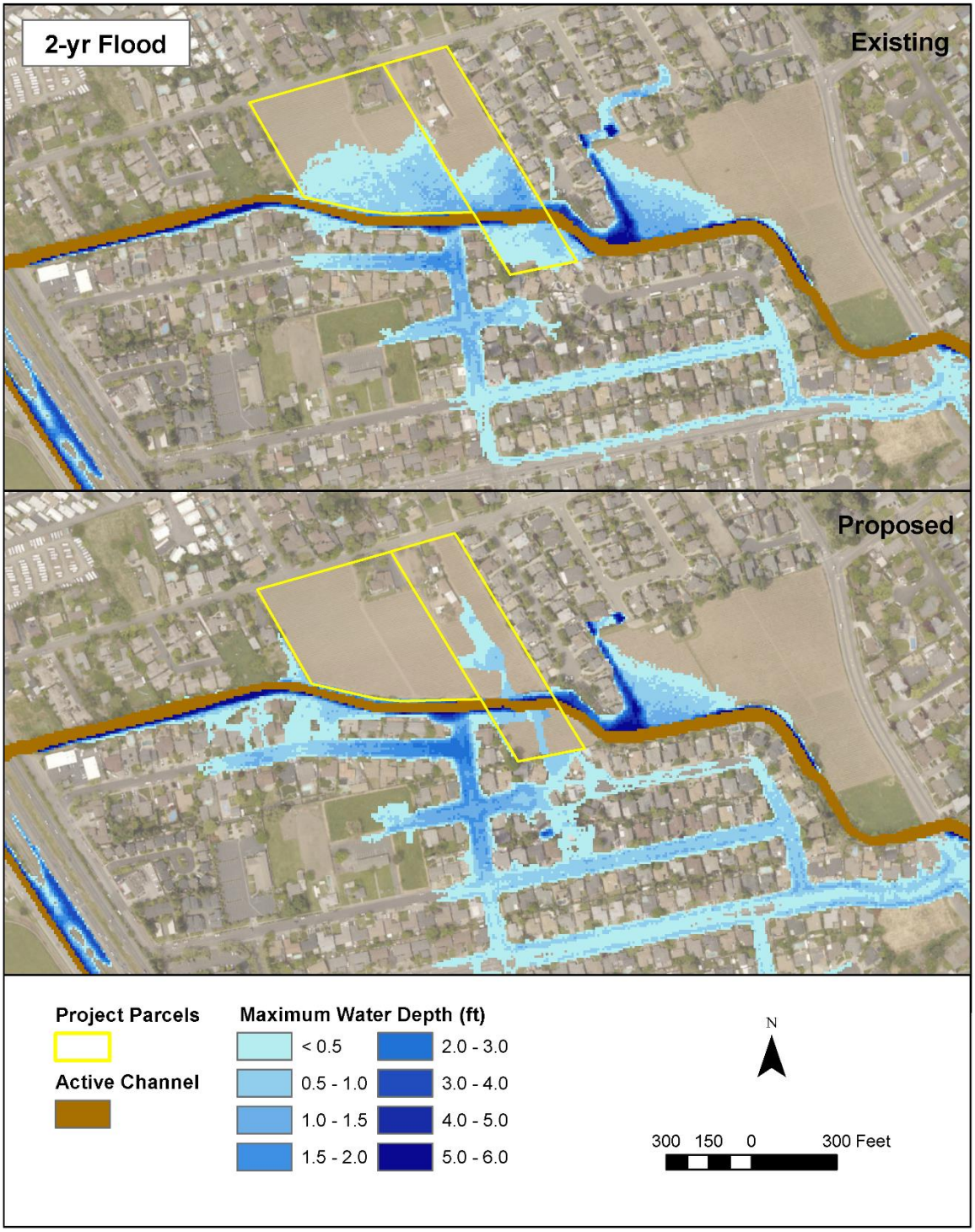


Figure 7: Comparison of existing and proposed 2-yr water depths and inundation extents for Alternative 1.

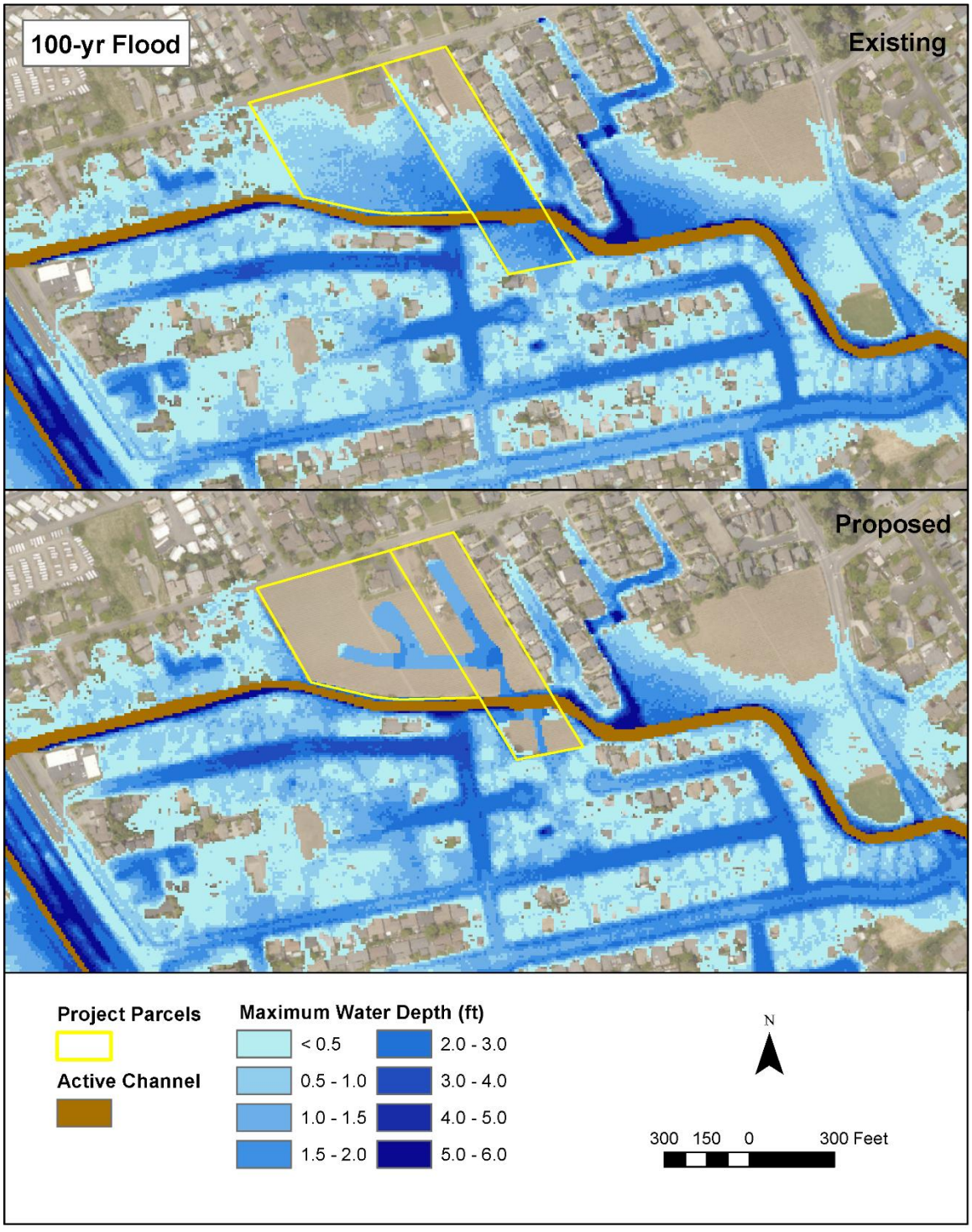


Figure 8: Comparison of existing and proposed 100-yr water depths and inundation extents for Alternative 1.

Alternative 2

Comparison of maximum WSE profiles between the updated existing and Alternative 2 conditions reveals that the design results in decreases in WSEs upstream of Lassen Street during the 2-yr and to a lesser extent during the 10-yr event, with maximum decreases of 0.57-ft during the 2-yr flood (Figure 9; Table 2). This can be attributed to the increase in channel capacity due to the addition of the terraces which, at smaller flood flows, is more than enough to compensate for the loss of floodplain associated with the proposed fill in the development footprint. The reduced WSEs result in substantially reduced overbank flows at Lassen Street and associated reductions in flood extents and depths south of the creek during the 2-yr flood and to a lesser extent during the 10- and 100-yr floods (Figures 10-12). This effect diminishes with increasing flow as changes on the floodplain become more important relative to changes in channel capacity. Except for the area along the edge of the fill prism immediately upstream of the project reach where local increases in depth of up to 0.8-ft occur during the 10- and 100-yr floods, increases in inundation extent and flood depth upstream of Lassen Street are minor (Figures 11-13). As discussed in greater detail in Appendix B, these increases do not affect structure flooding.

Downstream of Lassen Street, Alternative 2 results in increases in WSEs due to reduced overbank flows and inundation at Lassen Street (Figure 9). These overbank flow decreases result in more water remaining in-channel to be routed to downstream reaches resulting in a maximum increase in WSE of 0.28-ft during the 2-yr flood (Table 2). This effect diminishes with increasing flow, and the maximum increase in WSE during the 100-yr flood is 0.10-ft (Table 2). Increased flow in the downstream reaches results in small increases in inundation extents and depths in the vicinity of Bryce Court, along the high flow path on the north bank through the downstream Biale vineyard and crossing Jefferson Street north of Trower, and farther downstream at Vintage High School. These changes are relatively minor and primarily represent less than a 0.1-ft increase in inundation depth, except in low-lying portions of the street networks (Figures 11-13). Overall, the mean change in WSE over the project reach plus 1,000-ft upstream and downstream is near zero during all flood events (Table 2).

Table 2: Summary of changes in channel water surface elevations for Alternative 2.

		2-yr	10-yr	100-yr
Change in WSE (ft)	Min	-0.57	-0.27	-0.13
	Max	0.28	0.14	0.10
	Mean	-0.03	-0.02	-0.01

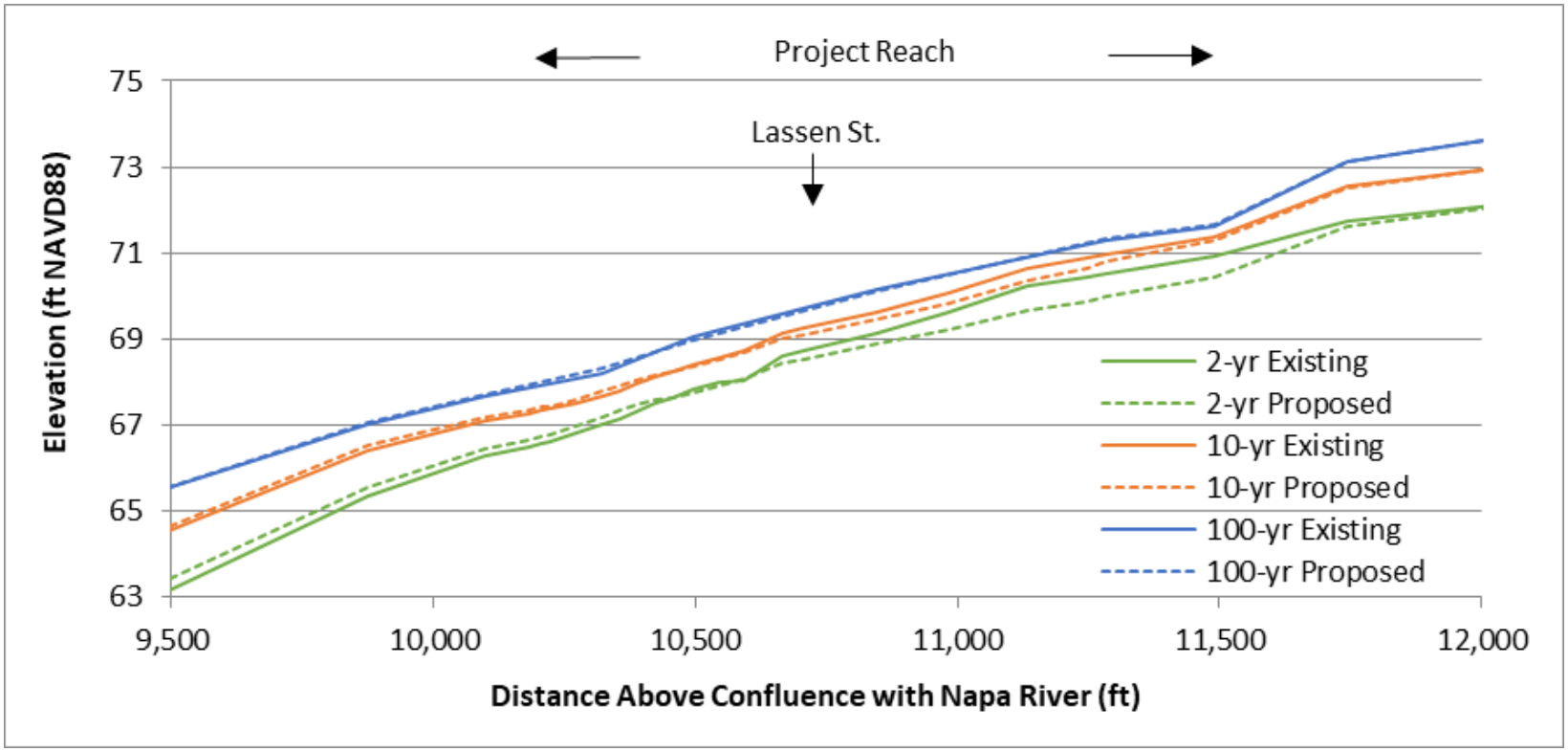


Figure 9: Comparison of existing and proposed water surface profiles for Alternative 2.

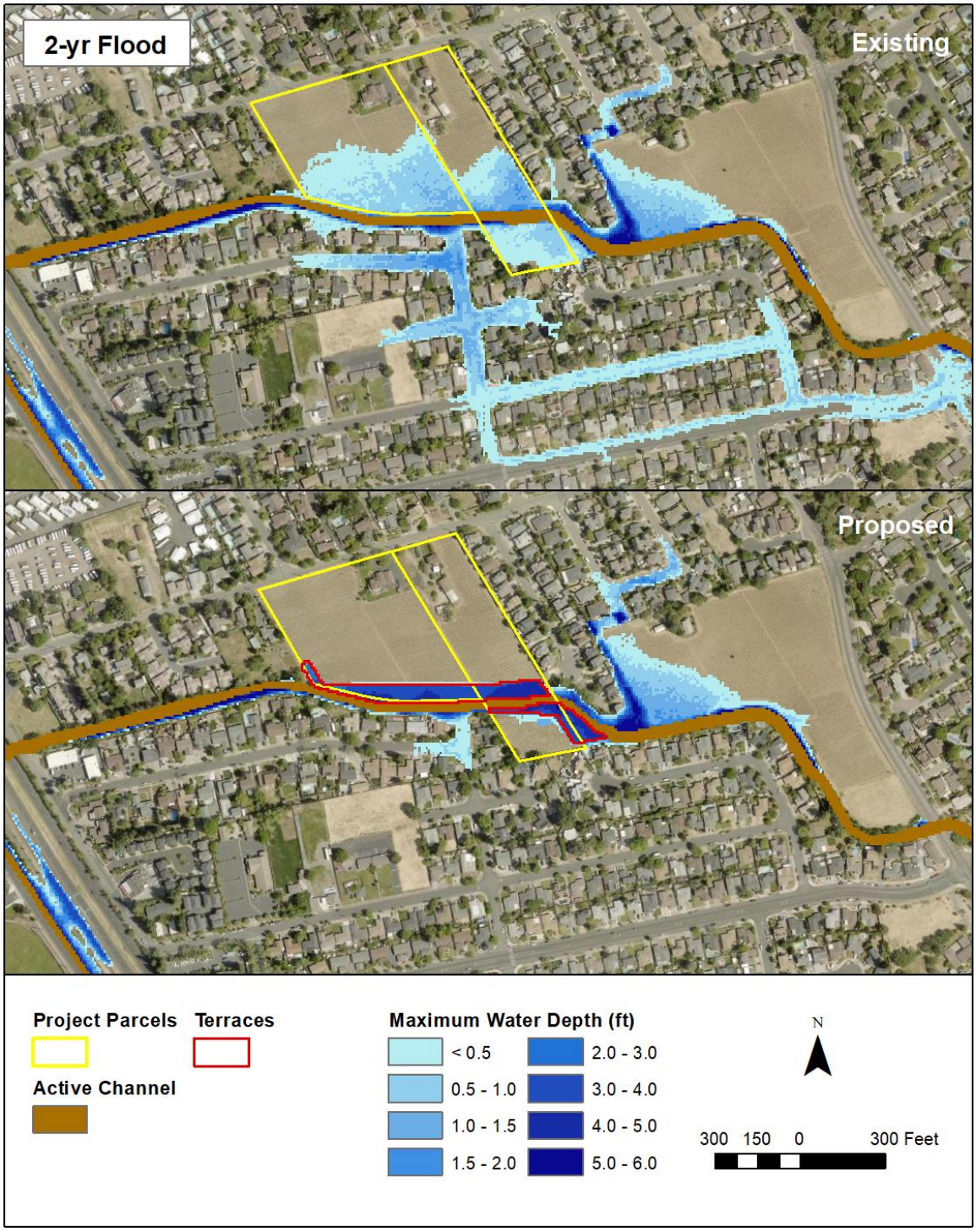


Figure 10: Comparison of existing and proposed 2-yr water depths and inundation extents for Alternative 2.

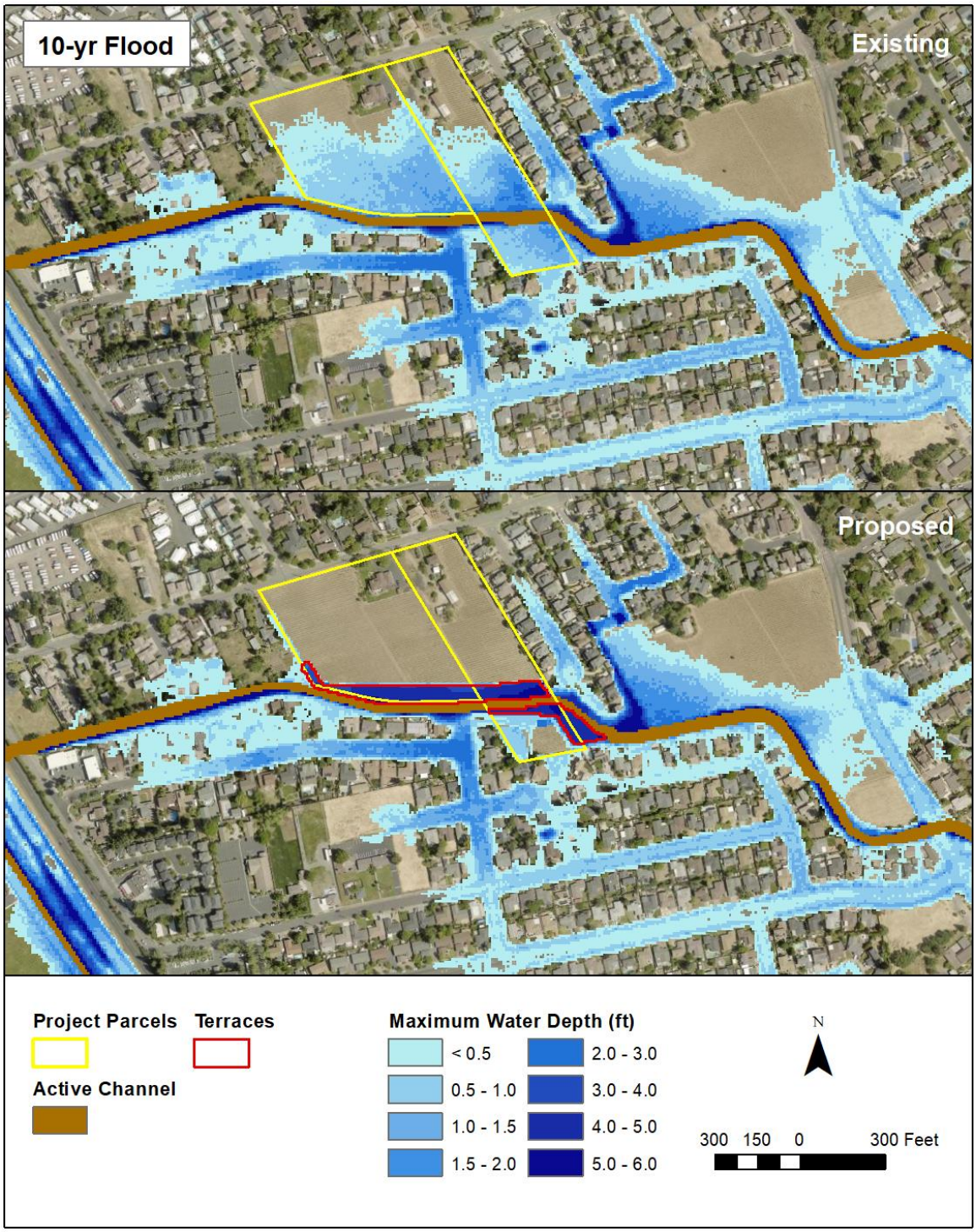


Figure 11: Comparison of existing and proposed 10-yr water depths and inundation extents for Alternative 2.

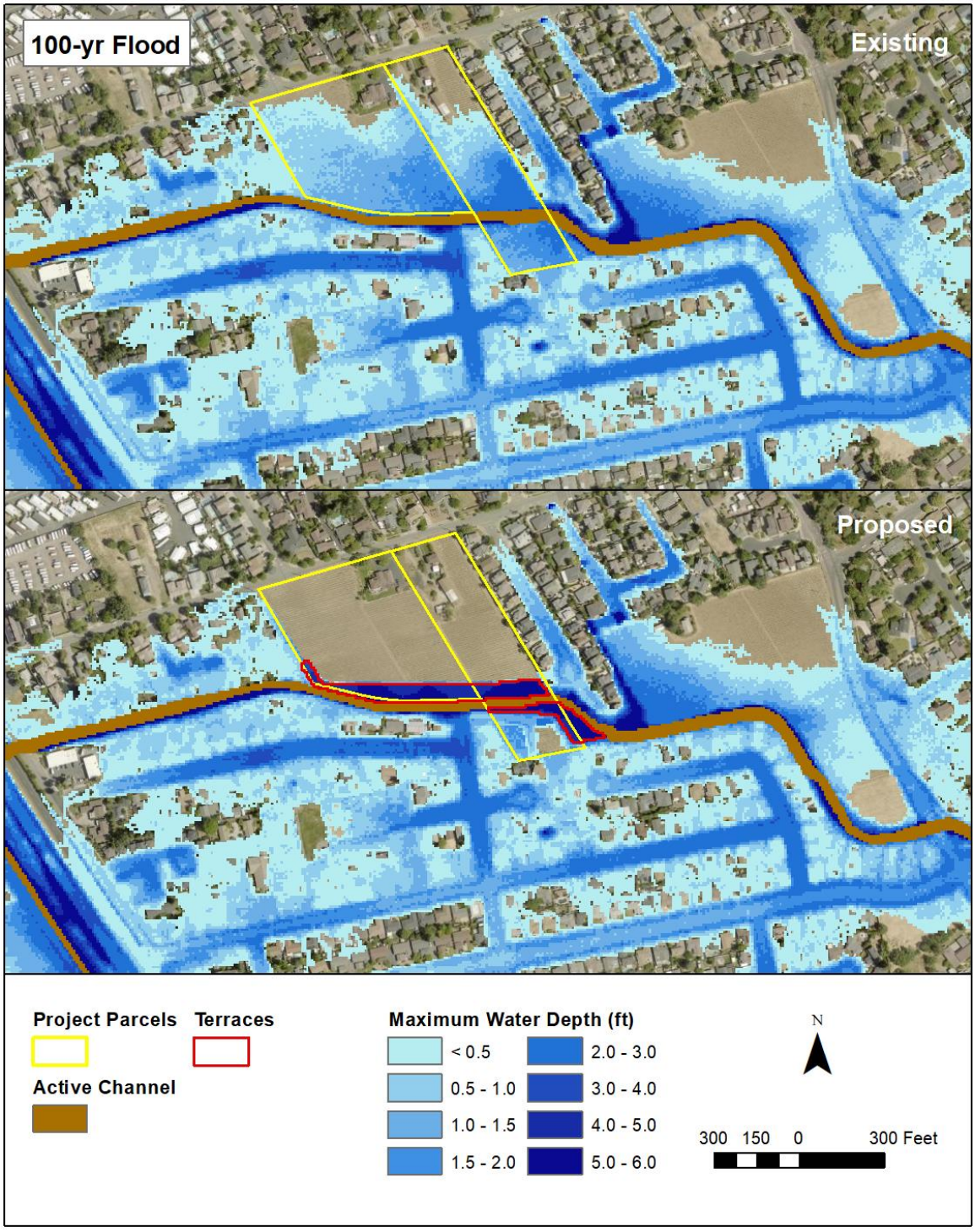


Figure 12: Comparison of existing and proposed 100-yr water depths and inundation extents for Alternative 2.

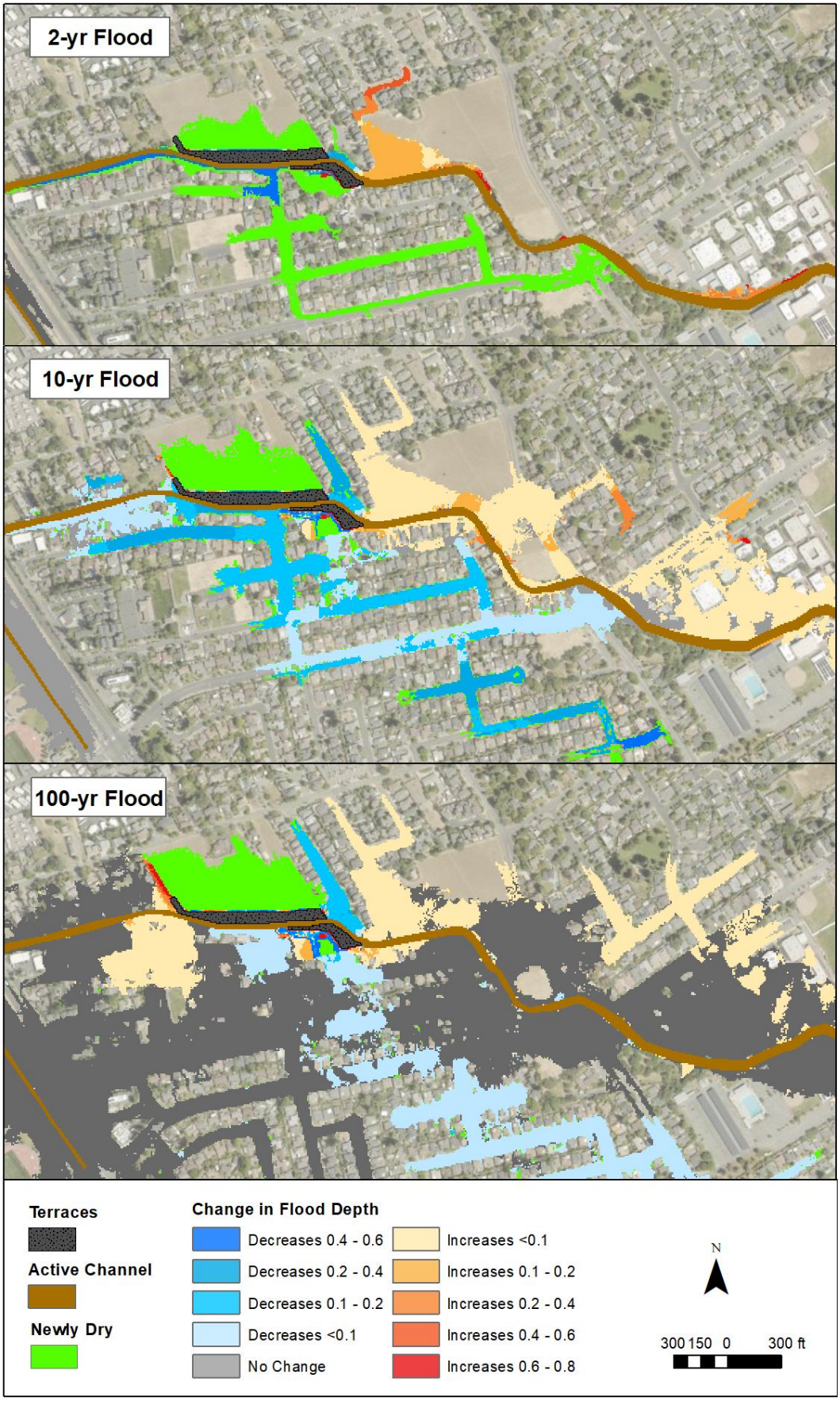


Figure 13: Change in 2-, 10- and 100-yr water depths and inundation extents for Alternative 2 relative to existing conditions.

Discussion & Selection of Preferred Alterative

The modeling analysis reveals several important aspects to the flooding situation along Salvador Creek. Overall, the analysis shows that flooding patterns are highly sensitive to changes in grade or WSEs that affect overbank flows at Lassen Street. The results indicate that these overbank flows are providing some important flood attenuation benefits to the reaches farther downstream, and that any measures that reduce overbank flows and inundation at Lassen Street will be accompanied by increases in WSEs and inundation extents downstream (or vice versa). This is because the channel downstream does not have sufficient capacity to contain increases in flow generated from reduced overbank flow at Lassen. This suggests that in the absence of a comprehensive flood mitigation strategy for the creek that addresses capacity limitations both upstream and downstream of the project reach, this site-specific project should seek to avoid significant reductions in overbank flows at Lassen Street to prevent downstream impacts.

Results for Alternative 1 indicate that filling the development footprint as a stand-alone measure results in significant increases in WSEs and inundation upstream of the project and in the Lassen Street neighborhood. Results for Alternative 2 indicate that pairing the fill with terracing can successfully mitigate these increases. As discussed above, flooding patterns are very sensitive to changes in overbank flows at Lassen Street, and the design does result in some reduction in overbank flows and inundation in the Lassen neighborhood which in turn results in minor increases in flows and inundation in the downstream reaches.

Comparison of the maximum increases in WSEs between the two alternatives reveals that Alternative 2 results in the smallest increases for each of the four simulated events (Tables 1 & 2). Comparison of the mean changes in WSEs reveals that Alternative 1 results in reductions in WSEs for all four events. This result indicates the potential pitfalls of basing decisions on WSE changes alone since the overall reductions are the result of significant increases in flooding in the Lassen neighborhood and the associated reductions in flows downstream. Alternative 2 results in near zero change to the mean WSE for all four events (Table 2).

Alternative 2 has been selected as the preferred alternative because it results in the smallest increases in WSEs for all four events as well as the smallest increases in inundation extents and depths. The degree of terracing represented by the design appears to be near optimal since less terracing would be expected to result in significant increases in WSEs and flooding upstream of the project reach and more terracing would be expected to result in less overbank flow at Lassen Street accompanied by significant increases in flooding downstream.

Though not likely to significantly affect peak riverine flooding or this analysis, it is worth noting that the City of Napa has developed a concept study for stormwater drainage system improvement for the Trower & Lassen area which it is planning to implement. The proposed improvements consist of abandoning five outfalls including one at Lassen Street and re-directing stormwater flows to an existing concrete culvert at Trower and Jefferson. The runoff from the relatively small (compared to total upstream drainage area) drainage areas served by these outfalls is not expected to significantly mitigate peak riverine flooding, however it should help

alleviate the frequency of nuisance street flooding during small events and the duration of inundation associated with overtopping at Lassen during larger events.

Erosion and sedimentation considerations associated with Alternative 2, particularly potential sediment deposition on proposed terrace surfaces and potential change of in-channel sediment transport capacity are the subject of a companion geomorphic assessment.

Appendix A - Comparison of water surface elevations in Salvador Creek between existing and proposed preferred alternative (Alternative 2) conditions.

2-yr Flood

		Water Surface Elevation (ft)		
	Station (ft)	Existing	Proposed	Change (ft)
	12503.7	73.91	73.91	0.00
	12480.6	73.89	73.89	0.00
	12328.0	72.33	72.31	-0.02
	12303.7	72.28	72.26	-0.02
	12216.2	72.19	72.17	-0.02
	12025.2	72.09	72.06	-0.03
	11744.5	71.73	71.60	-0.13
Project Reach	11491.6	70.92	70.42	-0.50
	11282.1	70.53	69.99	-0.54
	11246.0	70.45	69.88	-0.57
	11131.4	70.22	69.66	-0.56
	10982.9	69.63	69.22	-0.41
	10844.7	69.13	68.88	-0.25
	10706.5	68.75	68.51	-0.24
	10665.0	68.59	68.44	-0.15
	10591.9	68.01	68.07	0.06
	10545.5	68.01	67.91	-0.10
	10494.5	67.81	67.77	-0.05
	10456.1	67.64	67.65	0.00
	10423.3	67.49	67.58	0.09
	10384.9	67.30	67.45	0.15
	10355.4	67.15	67.34	0.19
	10322.6	67.00	67.18	0.18
	10272.1	66.80	66.96	0.15
	10220.1	66.63	66.76	0.13
	10203.7	66.57	66.72	0.15
	10181.7	66.50	66.66	0.16
	10098.2	66.27	66.44	0.17
	9872.4	65.33	65.55	0.22
	9360.9	62.36	62.64	0.28
	9303.4	62.34	62.62	0.28
	9249.2	61.47	61.74	0.28
	9071.1	61.29	61.57	0.28
	9010.0	61.10	61.38	0.27
	8869.8	60.82	61.10	0.28
	8650.1	60.51	60.78	0.28
	8480.9	58.67	58.89	0.23
	8254.6	58.13	58.35	0.22
	7921.5	57.73	57.94	0.21

10-yr Flood

		Water Surface Elevation (ft)		
	Station (ft)	Existing	Proposed	Change (ft)
	12503.7	75.92	75.92	0.00
	12480.6	75.90	75.90	0.00
	12328.0	73.29	73.27	-0.01
	12303.7	73.22	73.21	-0.01
	12216.2	73.12	73.10	-0.02
	12025.2	72.97	72.96	-0.02
	11744.5	72.55	72.52	-0.03
Project Reach	11491.6	71.35	71.28	-0.07
	11282.1	70.96	70.81	-0.16
	11246.0	70.87	70.64	-0.23
	11131.4	70.63	70.36	-0.27
	10982.9	70.05	69.83	-0.23
	10844.7	69.60	69.46	-0.14
	10706.5	69.27	69.08	-0.18
	10665.0	69.14	69.01	-0.12
	10591.9	68.71	68.67	-0.04
	10545.5	68.55	68.53	-0.02
	10494.5	68.39	68.36	-0.03
	10456.1	68.25	68.23	-0.02
	10423.3	68.13	68.17	0.04
	10384.9	67.97	68.03	0.06
	10355.4	67.78	67.93	0.14
	10322.6	67.66	67.77	0.11
	10272.1	67.49	67.57	0.08
	10220.1	67.37	67.43	0.05
	10203.7	67.33	67.41	0.08
	10181.7	67.28	67.36	0.08
	10098.2	67.10	67.18	0.09
	9872.4	66.41	66.51	0.10
	9360.9	63.89	63.95	0.06
	9303.4	63.88	63.96	0.08
	9249.2	62.85	62.90	0.04
	9071.1	62.71	62.75	0.04
	9010.0	62.52	62.56	0.04
	8869.8	62.27	62.29	0.02
	8650.1	61.85	61.87	0.02
	8480.9	59.66	59.67	0.01
	8254.6	59.11	59.13	0.01
	7921.5	58.69	58.71	0.02

100-yr Flood

		Water Surface Elevation (ft)		
	Station (ft)	Existing	Proposed	Change (ft)
	12503.7	77.57	77.57	0.00
	12480.6	77.56	77.55	0.00
	12328.0	74.24	74.24	0.00
	12303.7	74.12	74.11	-0.01
	12216.2	73.93	73.92	-0.01
	12025.2	73.65	73.66	0.01
	11744.5	73.12	73.12	-0.01
Project Reach	11491.6	71.61	71.66	0.06
	11282.1	71.28	71.33	0.06
	11246.0	71.17	71.14	-0.03
	11131.4	70.95	70.89	-0.06
	10982.9	70.48	70.42	-0.06
	10844.7	70.14	70.10	-0.04
	10706.5	69.86	69.73	-0.13
	10665.0	69.73	69.65	-0.08
	10591.9	69.34	69.27	-0.07
	10545.5	69.17	69.16	0.00
	10494.5	69.03	68.98	-0.06
	10456.1	68.92	68.84	-0.08
	10423.3	68.80	68.78	-0.01
	10384.9	68.60	68.62	0.02
	10355.4	68.41	68.48	0.07
	10322.6	68.21	68.31	0.10
	10272.1	68.05	68.08	0.03
	10220.1	67.96	67.94	-0.01
	10203.7	67.92	67.93	0.01
	10181.7	67.86	67.88	0.02
	10098.2	67.69	67.70	0.01
	9872.4	67.03	67.05	0.02
	9360.9	65.02	65.03	0.01
	9303.4	65.02	65.03	0.01
	9249.2	64.20	64.21	0.01
	9071.1	64.11	64.09	-0.01
	9010.0	63.91	63.91	0.00
	8869.8	63.63	63.63	0.00
	8650.1	62.96	62.97	0.00
	8480.9	60.82	60.82	0.00
	8254.6	60.09	60.09	0.00
	7921.5	59.80	59.80	0.00

Appendix B – Response to June 9, 2021 comments received from River Focus Water Resources Consultants.

1. The preferred Alternative 2 causes a 0.2 to 0.4 ft increase in computed 100-year flood elevations on the north (left overbank) floodplain, immediately upstream of the project, as well as on the south (right overbank) floodplain (see Figure 1). These increases appear to be the result of floodplain flows being blocked by the proposed fill (Figure 2). On the north side, the proposed floodplain terracing tapers off at the upstream end of the project to the point where there is no connection between the upstream floodplain flow and the proposed terracing during the 100-year event.

   Note that the terracing was likely tapered back to the channel because this matches the effective FEMA Zone AE (100-year) floodplain in this area. However, on the upstream side of the development, the existing conditions 100-year floodplain computed by the current study is larger than the effective FEMA floodplain.

   To reduce the increase in flood elevations, some of the floodplain conveyance may have to be preserved (for example, see Figure 3). Alternatively, floodplain relief culverts through the fill, and discharging to the terracing, might be an option. Note: All figures in this review document were taken from the *Hydraulic Analysis* tech memo with annotated comments, labels, and arrows added by River Focus.

Several changes to the Alternative 2 design were made to mitigate the effects of floodplain blockage at the upstream extents of the project area on the north and south banks. On the north bank, the terrace was widened at its upstream end as suggested by River Focus. Additionally, the fill prism was set back 15-ft from the property line such that increases in inundation associated with floodplain flows interacting with the fill will largely be contained on the project parcel. We also investigated using relief culverts to mitigate the north bank increases, however this strategy was not as effective as the adopted terrace changes. On the south bank, the extent of the fill prism was reduced by eliminating the western-most lot and instead lowering the grades in this area. The proposed driveway parallel to the channel was also lowered. The changes on the north side resulted in a decreased area where inundation depth increases extend onto the neighboring parcel to the west. Additional topographic survey was collected surrounding the neighbor's house and the existing and proposed 100-yr WSEs were mapped at a finer scale than is possible using the hydraulic model alone. This exercise reveals that although Alternative 2 does result in the WSE in this area increasing from 70.9-71.9 to 71.3-71.9, neither the exiting nor proposed WSEs are high enough to result in inundation that extends to the edges of the house (Figure A1). The changes on the south side resulted in all increases in inundation depth in excess of 0.1 ft being contained on the project parcels thus fully mitigating against significant off-site impacts.

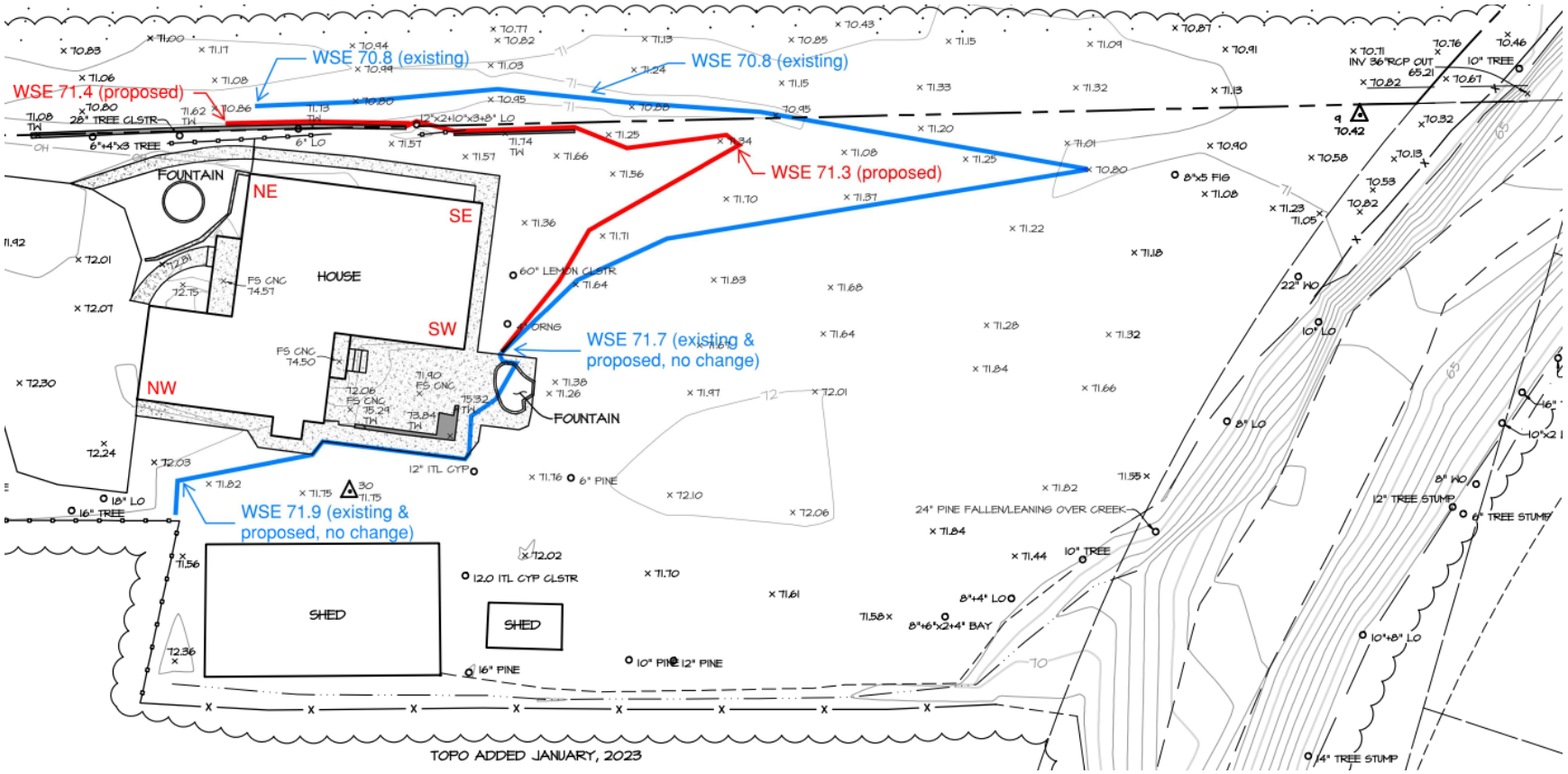


Figure A1: Detailed mapping of existing and proposed WSEs in the vicinity of the house located on the neighboring parcel west of the proposed project on the north side of Salvador Creek.

2. Alternatives 3a and 3b include an elevated pathway (0.5 ft for 3a or 0.9 ft for 3b) to block flow from leaving the channel at Lassen Street. The proposed berm keeps significantly more flow in the channel and causes increased flooding throughout the study reach. Based on a close review of the model results, we believe that Alternative 2 may be a better option for proposed conditions in terms of minimizing offsite flood impacts until a more comprehensive, regional flood reduction solution can be implemented in the future. However, in consultation with the NCFC&WCD, more information is needed to make a definitive conclusion (see comment #3).

We completely agree that Alternative 2 is the preferred option and have eliminated discussion of Alternatives 3a and 3b from the revised hydraulic report for simplicity and because those alternatives resulted in significant increases in flooding.

3. For Alternatives 2 and 3, it is difficult to determine whether the floodplain benefits outweigh the areas where flood depths are increasing. This is because not all increases (and decreases) are alike. For example, flood depth increases on undeveloped land may be more acceptable than increases affecting existing structures. For each recurrence interval event, please provide a comparison of:

    a) The number of insurable structures and the total floodplain area with WSE increases greater than 0.1 ft; and

    b) The number of insurable structures and the total floodplain area with WSE decreases less than 0.1 ft.

The table below provides the requested information for Alternative 2. As discussed above in the response to item #2, Alternative 3 has been removed from consideration due to unacceptable impacts. Changes in floodplain inundation on the proposed project parcels were excluded from the tabulation of floodplain area change to avoid skewing the results. The proposed condition results in reductions in offsite floodplain inundation area for all three flood events. The number of structures with decreases in WSE is greater than the number of structures with increases for all three flood events. The raw model outputs do indicate increases in 100-yr WSEs greater than 0.1 ft in the vicinity of two houses, however additional surveying and more detailed floodplain mapping was performed in the vicinity of the houses which revealed that the finished floor elevations are above both the existing and proposed 100-yr WSEs, therefore these structures were excluded from the table. The detailed mapping for the house upstream of the project on the north bank is discussed above under Item #1 and presented in Figure A1, and the detailed mapping for the other house downstream of the project on the south bank is presented in Figure A2. These statistics clearly show that the project results in a net reduction in flood risk to the surrounding neighborhoods.

	floodplain area (acres)			# of structures		
	increase	decrease	net change	increase	decrease	net change
2-yr	6.9	7.3	-0.4	7	15	-8
10-yr	4.4	13.6	-9.3	11	57	-46
100-yr	0.6	7.4	-6.8	0	2	-2

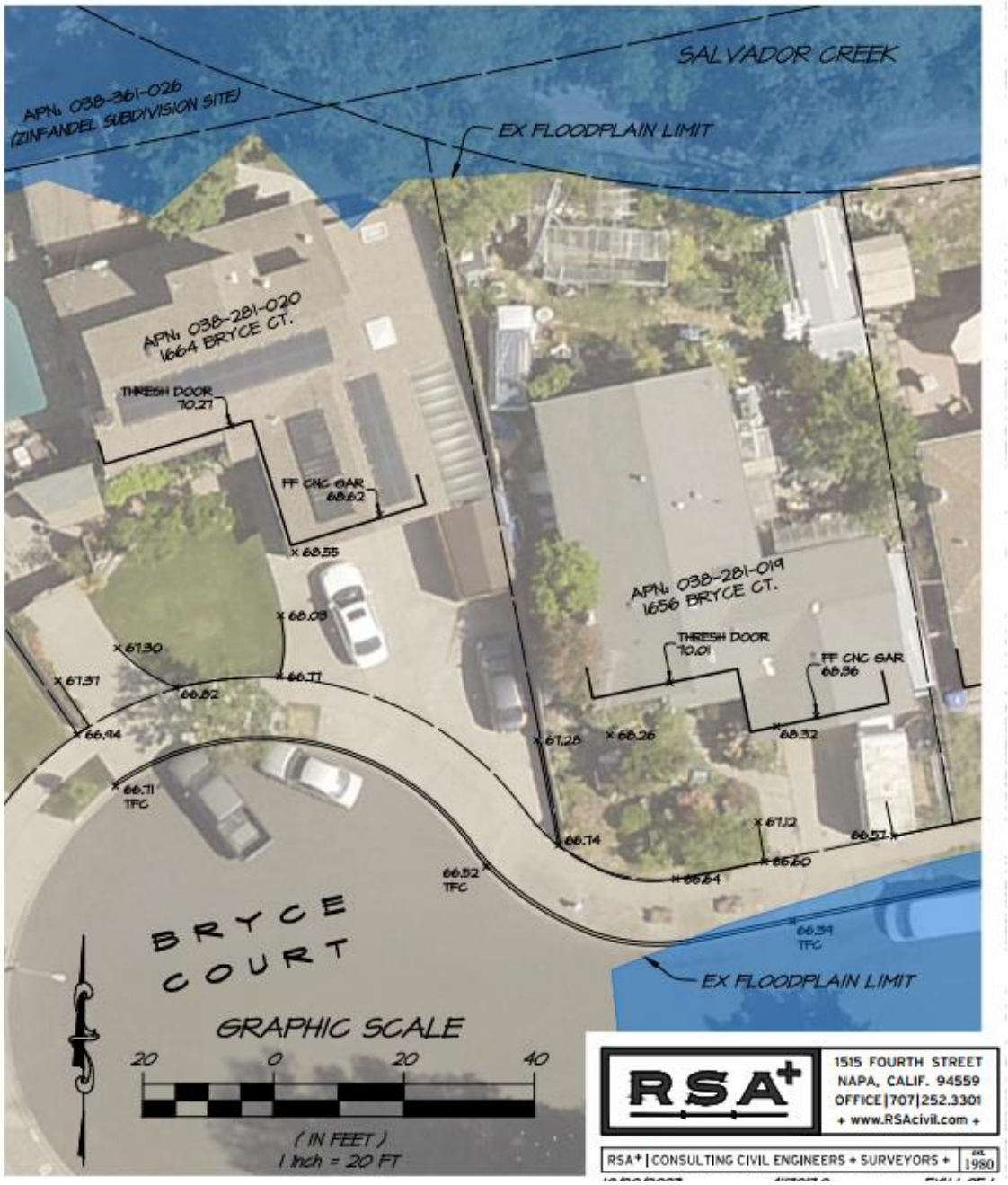


Figure A2: Surveyed elevations in the vicinity of the houses located downstream of the proposed project on the south side of Salvador Creek (the existing and proposed 100-yr water surface elevations in this reach are 68.1 and 68.2 ft respectively).

4. A Manning's *n* value of 0.08 was selected for the terracing. The report mentions that this value is based on mature vegetation conditions. Please provide additional information on what type of vegetation is planned or expected for the terraces and how that corresponds to the selected *n* value.

The terraces will be planted with native grasses, shrubs, and trees. A detailed riparian restoration plan will be prepared prior to construction. A Manning's *n* value of 0.08 was selected as a 'conservative' value representing the high-end of plausible roughness associated with the proposed planting strategy.

5. Figure 23 of the Hydraulic Analysis tech memo shows the maximum change in WSE for each of the alternatives for each modeled flood event. Please confirm the maximum change values. For example, for preferred Alternative 2 the 100-year max change is shown as 0.1 ft; however, the WSE difference plot (Figure 1 above) shows a max change of 0.2 to 0.4 ft.

The maximum WSE change values reported in Figure 23 of the prior report represent changes within the channel of Salvador Creek as simulated at cross sections within the 1-dimensional component of the model, whereas the changes shown in the WSE difference plots represent changes in inundation on the floodplains as simulated with the 2-dimensional component of the model. In the current report, the maximum changes in the channel and on the floodplain for Alternative 2 are shown in Table 2 and Figure 13 respectively.

6. Overall: The geomorphic analysis provides a well-reasoned analysis of potential stream sedimentation—based on the computed Rouse Number—through the project reach. We do not have any specific comments or suggested revisions on the geomorphic analysis.

No response necessary.

7. The preferred Alternative 2 has additional flow in the main channel downstream of the project, which could have an impact on stream stability. Please provide a discussion—either in the hydraulic analysis or with the geomorphic analysis—of whether any increased velocity or shear stress will adversely impact stream stability given the existing bank vegetation and/or protection. Please include figures showing computed channel velocities and shear stresses for existing and proposed conditions, as well as difference plots. Note: For the velocity and shear stress figures, please do not cover the main/active channel with a brown polygon (as in the flood elevation plots).

As requested, simulated channel velocities and shear stresses for existing and proposed conditions are shown below in Figures A3 and A4. Note, that the channel is simulated using a 1-dimensional formulation which is why the flood elevation plots show the channel as a brown polygon. The polygon is not covering up information but rather is intended to delineate where

detailed 2-dimensional information is not available and where results are instead presented as longitudinal profiles.

The velocity and shear stress comparisons reveal that the increased flow in the channel downstream of the project associated with Alternative 2 results in only very minor increases in these parameters. Matt O'Connor performed an additional reconnaissance survey of the creek between Lassen Avenue and Jefferson Avenue on June 1, 2023 to assess existing channel stability and potential vulnerability to erosion. This reconnaissance revealed that much of the right lower bank is armored by a vertical rock revetment about 3 ft or less in height that appears to have been placed in a stable stacked arrangement, probably at the time of construction of the channel. Portions of the left bank are armored by plates of concrete slab that appear to be waste material. These revetments appeared stable; no areas of undermining or failure of revetment were observed.

There was little evidence of significant sediment deposition in the channel of Salvador Creek. There is one substantial gravel bar that was observed in both 2020 and 2023 formed about 200 ft downstream of the private bridge, and it was not particularly large. The sediment deposited on the bar had a median diameter estimated to be 30 mm and the largest clasts were about 100 mm in diameter. A sand deposit along the bank on the bar top had a median diameter estimated to be about 0.5 mm. The general absence of mobile gravel bars in this area reduces the potential bank erosion. The only other gravel bar observed in the survey is at the Jefferson Avenue bridge at the downstream end of the surveyed reach.

The downstream reach has relatively significant woody vegetation canopy in the narrow riparian zone between the adjacent vineyards and subdivisions. The riparian canopy is dominated by young willow and more mature oak trees; the young willow comprises a substantial understory component. The abundance of relatively mature trees is greater on the right bank. The density of shrubs, grasses, and herbaceous plants on the banks is variable. The width of the riparian zone is limited, and the overstory canopy generally extends not more than one crown diameter from either bank.

The density of riparian vegetation is sufficient to provide ground cover and some root reinforcement of soils and generally appears to prevent surface erosion. The density of woody stems and branches in the channel is substantial but not extreme. This density appears to provide some balance between excessive density that could significantly increase flow resistance and sparse or absent woody vegetation that could leave inadequate ground cover and low flow resistance along the banks that could increase the likelihood of erosion.

This reach of Salvador Creek is inhabited by beaver. Four active dams about 3 ft in height were observed during the survey. The upstream most of these is at Lassen Avenue with another active dam about 200 ft downstream near the existing private bridge; these two locations were also

occupied by beaver dams in 2020. The next dam downstream is about 850 ft downstream of the private bridge, with another dam about 300 ft further downstream. The presence of beaver is indicative of a reliable food source and perennial flow. It is generally understood that impounded ponds formed upstream of dams promote the growth of willows and other woody plants utilized by beaver. The presence of this beaver population suggests that this reach of Salvador Creek is relatively stable.

Given hydraulic simulations that indicate very little change in velocity and bed shear stress in Salvador Creek with the proposed project and the observed channel conditions, the proposed project does not pose a substantial risk of destabilizing this reach of Salvador Creek.

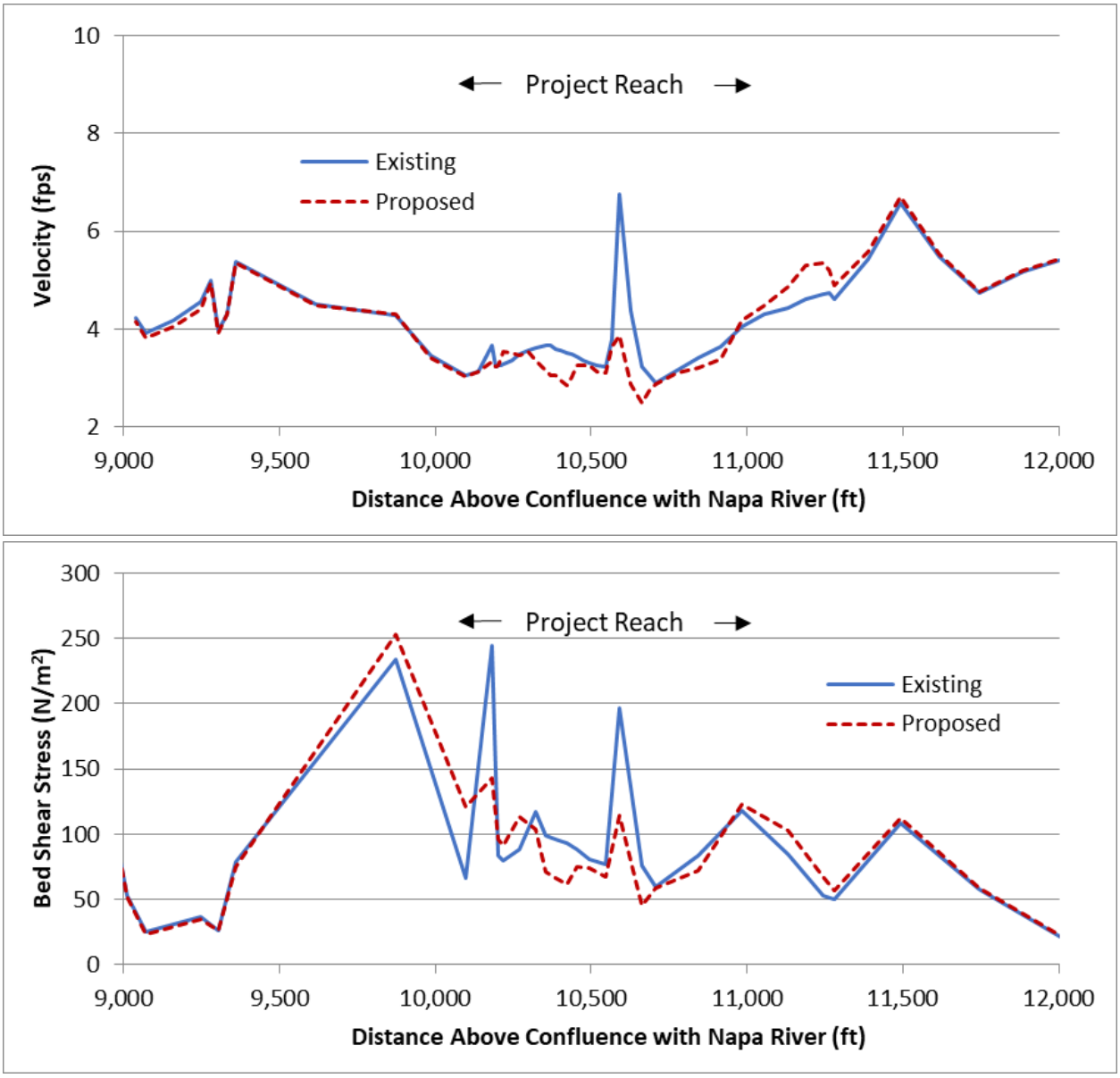


Figure A3: Comparison of existing and proposed velocities (top) and shear stresses (bottom) for the 10-yr flood.

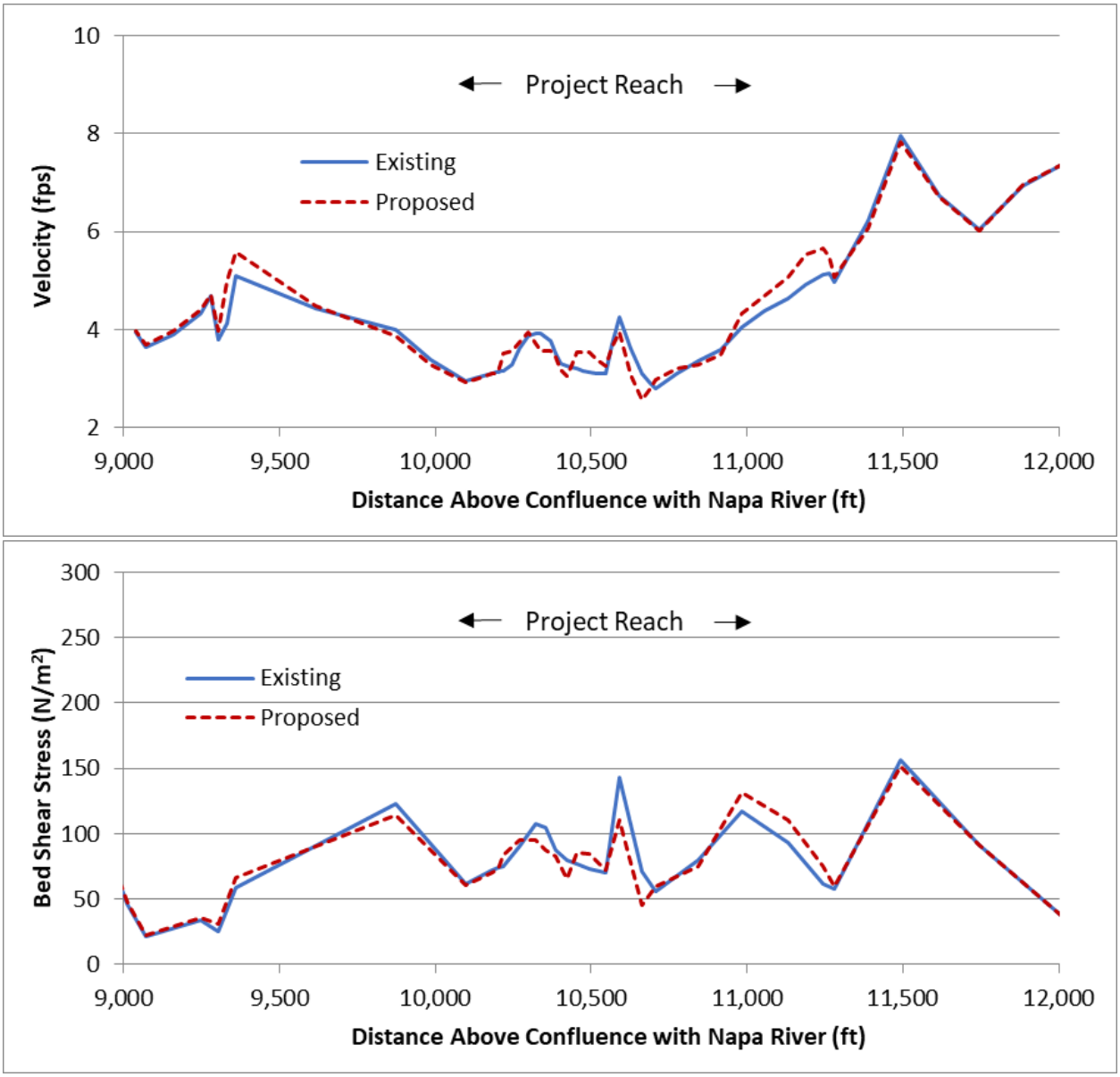


Figure A4: Comparison of existing and proposed velocities (top) and shear stresses (bottom) for the 100-yr flood.

8. Please provide velocity and shear stress results for the terraces and fill slopes along the terraces and verify that no additional protection is required.

The requested results are provided below in Figures A5 & A6. Maximum velocities and shear stresses on the terraces are ~2.3 fps and 35 N/m^2 respectively. These values indicate that additional protection beyond the planned planting of native grasses, shrubs, and trees is not necessary. Maximum velocities and shear stresses on the side slopes leading down to the terraces are ~7.2 fps and 100 N/m^2 respectively. These values indicate that these fill slopes do require additional protection in the form of 9-in d_{50} or larger rock rip-rap which will be incorporated in the final design plans.

9. Where floodplain flows are returning to the channel at the upstream end of the project (see Figure 4), the likelihood of bank erosion may increase. Please examine proposed vs. existing velocity and shear stresses specifically in this area.

Floodplain velocities and shear stresses are both quite low in the area where floodplain flows return to the channel at the upstream end of the project on the north side of the creek (Figures A5 & A6) and there aren't significant increases in channel velocities associated with the project in this area (Figures A3 & A4), therefore increases in bank erosion are not likely to occur in this area and additional bank protection is unnecessary.

10. We reviewed selected MIKE 11 and MIKE 21 models for the project and the model parameters look reasonable. The only model revisions needed will be based on design changes required by any of the previous comments.

No response necessary.

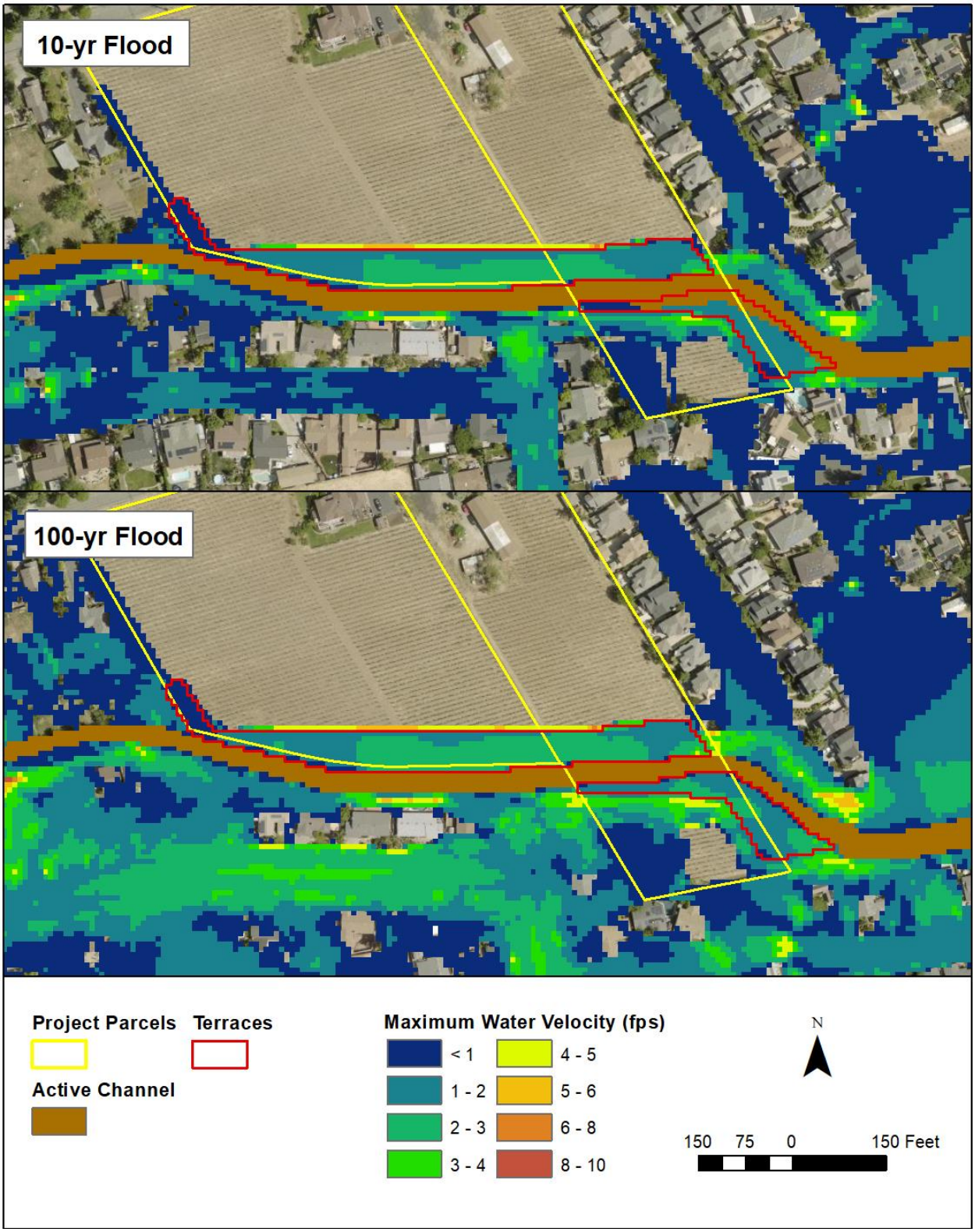


Figure A5: Proposed velocities for the 10-yr (top) and 100-yr (bottom) floods.

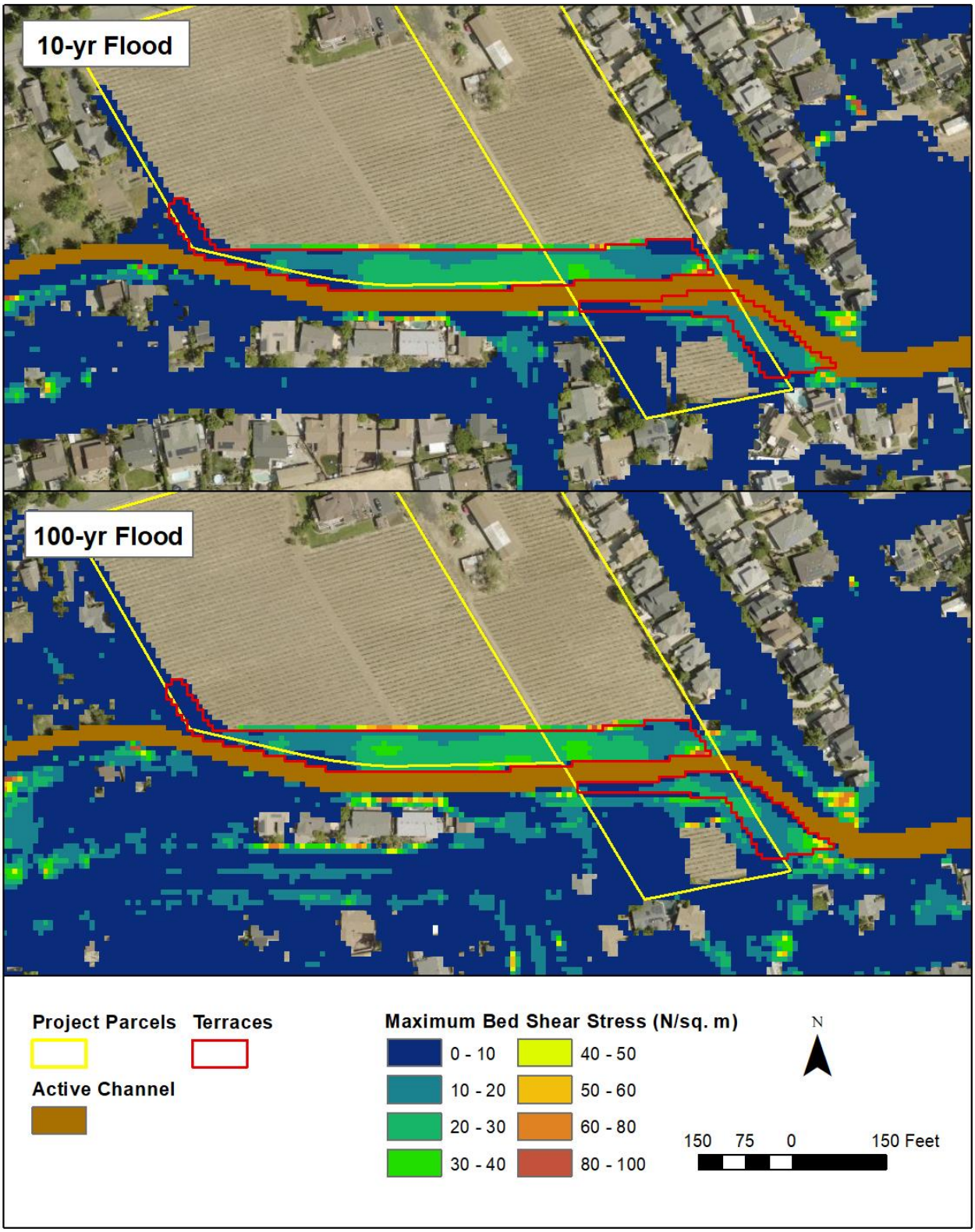


Figure A6: Proposed shear stresses for the 10-yr (top) and 100-yr (bottom) floods.

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F.4 - Review of Stormwater Management Documentation

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June 7, 2024

Rachel Krusenoski
First Carbon Solutions
2999 Oak Road, Suite 250
Walnut Creek, California 94597

via email to: rkrusenoski@fcs-intl.com

RE: Review of Stormwater Management Documentation for the Zinfandel Subdivision, City of Napa, Napa County, California

Dear Rachel Krusenoski,

Thank you again for offering Balance Hydrologics the opportunity to review documentation related to stormwater management pertinent to the proposed Zinfandel Subdivision in the City of Napa. Balance staff has reviewed the materials that were provided to understand the proposed stormwater management approach and evaluate whether the technical analyses provide reasonable assurance that potential impacts related to runoff water quality and flow rates can be mitigated with implementation of the infrastructure measures proposed. This letter summarizes our review of that information and associated conclusions.

Documents Reviewed

The following documents have been reviewed:

- Preliminary Detention Calculations, dated September 15, 2023, prepared by RSA+
- Stormwater Control Plan, dated September 15, 2023, prepared by RSA+
- Hydraulic Analysis, dated October 25, 2023, prepared by O'Connor Environmental, Inc.
- Peer Review of Development Project's Hydraulic Analysis, dated February 12, 2024, prepared by RSA+

Summary of Review and Findings

The review was carried out in light of the requirements of the City of Napa and the Phase II Municipal Stormwater NPDES permit issued by the California State Water Resources Control Board. City of Napa design standards require projects to mitigate potential increases in peak stormwater flow rates, while the State Phase II permit is the primary regulatory framework for compliance with federal Clean Water Act

and state Porter-Cologne Act requirements. Specific City requirements and design standards are found in the City of Napa Standard Specifications (January 2022). Requirements associated with meeting the pertinent regulations regarding water quality and hydromodification management are found in the Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties published by the Bay Area Stormwater Management Agencies Association (BASMAA, January 2019).

The following discussion summarizes the findings of our review, and, where appropriate, identifies additional information that will likely be needed before final project approvals.

Water Quality. The Stormwater Control Plan provided is carefully prepared, and specifically addresses post-construction water-quality management approaches and facilities in a consistent and clear manner. Characterization of the site conditions, including underlying soils and pre-project drainage patterns and land cover, are appropriate for sites of this scale. Self-treating areas are appropriately delineated and characterized. The sizing of the four proposed stormwater control measures was reviewed and is consistent with the guidance set forth in the BASMAA manual, and the Plan conclusions that the bioretention facilities can meet runoff treatment and trash management requirements is supported.

> *Recommended Additional Information*. None.

Hydromodification Management. The proposed impervious cover associated with the project is well above the threshold of one acre at which the provisions of Section E.12.f of the Phase II permit apply. This provision requires regulated projects to mitigate increases in peak flow rates associated with the 2-year storm event. The Stormwater Control Plan as reviewed does not appear to acknowledge this requirement and/or the manner in which mitigation is provided. This omission is not design related as the requirements of Section E.12.f are actually met through the proposed stormwater treatment measures.

> *Recommended Additional Information*. The final version of the Stormwater Control Plan should include a concise discussion of the concept of potential impacts due to changes in runoff flow-duration relationships (hydromodification) and reiterate that sizing of the bioretention facilities per the BASMAA Manual meets the E.12.f criteria.

Peak Flow Control. Our understanding is that compliance with City Standard Specifications regarding peak flow control are summarized in the Preliminary Detention Calculations document. That document presents a discussion of the modeling completed using the TR-55 methodology. Review of the information presented, and the selection of hydrologic parameters show that the modeling was done in a manner consistent with standard practice and generally conforming to the requirements embodied in the City standards. The model output supports the conclusion that the bioretention facilities can be configured in a manner that mitigates potential increases in peak flow during a 100-year event. The document correctly notes that there are special provisions that apply to projects in the Salvador Creek watershed (see Section 2.10.01 of the City Standard Specifications) but does not discuss the rationale for only including modeling of the 100-year event, whereas the standards call for modeling of the 10- and 25-year events as well.

Recommended Additional Information. Future updates of the detention calculations should include a discussion and/or hydrologic modeling per the following considerations:

- Pre-project curve number. The composite pre-project curve number cites a pervious area value of 84 per guidance for open space in fair condition on hydrologic soil group D soils. The characterization of the soil type is appropriate; however, the majority of the site has apparently been dedicated to vineyard uses for many years. A reference should be included supporting the selection of open space as the pervious area curve number.

- Design storms. As noted above, our understanding is that the full range of requirements in the City standards apply. Therefore, the modeling should be expanded to include the 10- and 25-year design events.

- Basin routing. The discussion of the hydrograph routing through the two bioretention facilities should be revised to clarify whether the underdrain outlet is included in the routing calculations and/or why it is not. The text should also clarify the flowline elevations of the proposed outlet orifices, since a minimum of 6 inches of ponding depth is typically necessary to achieve the biofiltration benefits of each facility and the orifices should not reduce that storage volume. Additional information should also be provided regarding any emergency spillways and how the facilities will provide the one foot of freeboard called for in the standards.

Summary

The documents reviewed provide information that shows the proposed project can mitigate potential impacts related to water quality, hydromodification, and peak flow released to Salvador Creek. Our understanding is that the information provided is consistent with an early stage of the project design and that future design revisions and associated documentation will address the additional information identified in our review. It is reasonable to assume that inclusion of the appropriate additional modeling and discussion can show that the project can fully mitigate the pertinent potential impacts associated with stormwater management at the site.

Closing

Thank you again for the opportunity to assist with this peer review process. Do not hesitate to contact us if you have questions related to observations presented in this letter.

Sincerely,

BALANCE HYDROLOGICS, Inc.

Edward D. Ballman, P.E.
Principal Engineer

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F.5 - Review of the Hydraulic Analysis

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August 23, 2024

Rachel Krusenoski
First Carbon Solutions
2999 Oak Road, Suite 250
Walnut Creek, California 94597

via email to: rkrusenoski@fcs-intl.com

RE: Review of the Hydraulic Analysis for the Zinfandel Subdivision, City of Napa, Napa County, California

Dear Rachel Krusenoski,

Thank you again for offering Balance Hydrologics the opportunity to review documentation related to stormwater management pertinent to the proposed Zinfandel Subdivision in the City of Napa. Balance staff has re-reviewed the Hydraulic Analysis documents that were provided to understand the effects of the proposed developments on Salvador Creek and the surrounding floodplain. This letter summarizes our review of that information and associated conclusions. It is intended to supplement the prior letter that we submitted on June 7, 2024, which covered our review of the proposed stormwater management approach for the project.

Documents Reviewed

The following documents have been reviewed:

- Hydraulic Analysis, dated October 25, 2023, prepared by O'Connor Environmental, Inc.
- Peer Review of Development Project's Hydraulic Analysis, dated February 12, 2024, prepared by RSA+

Summary of Review and Findings

The review was carried out to assess for reasonable model input and evaluation of model results consistent with the standard of care for such analyses. It is our understanding that no specific requirements exist for hydraulic modeling, other than the demonstration that the proposed project will not worsen flood conditions within the project reach and the surrounding area. The following discussion summarizes the findings of our review.

Mitigation of Flood Events. The hydraulic modeling approach is carefully prepared and addresses the impacts of two proposed alternatives with the existing conditions. Both alternatives are clearly described, and the discussed parameter assumptions are logical and appear well-justified. The results of the study clearly describe Alternative 2 as the superior option, as it results in the smallest increases in water surface elevation and inundation extents and depths for the simulated 2-, 10-, and 100-year floods.

Recommended Additional Information. None.

Response to Original Peer Review Comments. The Hydraulic Analysis 2023 document is updated to address comments received from River Focus Water Resources Consultants. The responses demonstrate that the updated proposed alternatives have improved in their ability to lessen floodplain impacts. Each comment has been carefully and clearly addressed.

Recommended Additional Information. None.

Summary

The documents reviewed provide information that shows the proposed project, specifically Alternative 2, can mitigate potential impacts related to flooding during 2-, 10, and 100-year flood events, both within the project reach and upstream and downstream along Salvador Creek.

Closing

Thank you again for the opportunity to assist with this peer review process. Do not hesitate to contact us if you have questions related to observations presented in this letter.

Sincerely,

BALANCE HYDROLOGICS, Inc.

Edward D. Ballman, P.E.
Principal Engineer

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Appendix G:

Noise Supporting Information

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Mobile Construction Activity Noise Calculation

Receptor:	Receiving residential property line	Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements								
		Reference (dBA) 50 ft		Usage	Distance to	Ground	Shielding	Calculated (dBA)		
No.	Equipment Description	Lmax	Quantity	factor[1]	Receptor	Effect[2]	(dBA)[3]	Lmax	Leq	Energy
1	Grader	85	1	40	40	1	0	86.9	83.9	247052942.2
2	Excavator	85	1	40	90	1	0	79.9	73.4	21689147.19
3	Dozer	85	1	40	90	1	0	79.9	73.4	21689147.19
4	Front End Loader	80	1	40	90	1	0	74.9	68.4	6858710.562
5	Backhoe	80	1	40	90	1	0	74.9	68.4	6858710.562
6										
7										
8										
9										
10										
Notes:							Lmax[4]	87	Leq	85

[1] Percentage of time activity occurs each hour

[2] Soft ground terrain between project site and receptor.

[3] Shielding due to terrain or structures

[4] Calculated Lmax is the Loudest value.

Mechanical Equipment Noise Calculation

Receptor:	Receiving residential property line	Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements								
		Reference (dBA) 3 ft		Usage	Distance to	Ground	Shielding	Calculated (dBA)		
No.	Equipment Description	Lmax	Quantity	factor[1]	Receptor	Effect[2]	(dBA)[3]	Lmax	Leq	Energy
1	Commercial grade mechanical ventilation equipment	70	1	100	30	0.5	0	50.0	45.0	31622.7766
2										
3										
4										
5										
6										
7										
8										
9										
10										
							Lmax[4]	50	Leq	45

Notes:

[1] Percentage of time activity occurs each hour

[2] Soft ground terrain between project site and receptor.

[3] Shielding due to rooftop parapet and soundwall shielding

[4] Calculated Lmax is the Loudest value.

FIRSTCARBON SOLUTIONS
FCS INTERNATIONAL, INC.

Project Number: 3552.0019 Sheet ___of ___
Project Name: Zinfandel Subdivision
Test Personnel: Henrique Zhu

NOISE MEASUREMENT SURVEY

Site Number: ST1 Date: 03/20/24 Time: From 14:24 To 14:39

Site Location: 10 feet off of El Centro Avenue, adjacent to Via La Paz Street and El Centro Avenue intersection.
Location on project site.

Primary Noise Sources: El Centro Avenue traffic, Via La Paz Street traffic, residential noises

Measurement Results

	dBA
L_{eq}	62.6
L_{max}	81.0
L_{min}	39.9
L_{peak}	103.5
L_5	69.6
L_{10}	67.2
L_{50}	52.2
L_{90}	43.7
SEL	

Observed Noise Sources/Events

Time	Noise Source/Event	dBA

Comments:

Equipment: LxT 2 Measured Difference: 0.04 dBA
Settings: A-Weighted ☐ Other☐_____ Slow☐ Fast☐ Windscreen■

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)	
Comments:	Light breeze, 66 F			

Photos Taken:

Photo Number	Location/Description
1	Facing North
2	Facing East
3	Facing South
4	Facing West

Traffic Description:

Roadway	# Lanes	Posted Speed	Average Speed	NB/EB Counts	SB/WB Counts
Via La Paz St	2	25		5	7
El Centro Avenue	2	30		23	39

Diagram/Further Comments:

FIRSTCARBON SOLUTIONS
FCS INTERNATIONAL, INC.

Project Number: 3552.0019 Sheet ___of ___
Project Name: Zinfandel Subdivision
Test Personnel: Henrique Zhu

NOISE MEASUREMENT SURVEY

Site Number: ST2 Date: 03/20/24 Time: From 14:45 To 15:00

Site Location: Northwest corner of project site, adjacent to 185 El Centro Avenue, 10 feet off of El Centro Avenue roadway.

Primary Noise Sources: El Centro Avenue traffic, residential noises

Measurement Results

	dBA
L_{eq}	59.1
L_{max}	74.9
L_{min}	39.7
L_{peak}	101.6
L_5	67.1
L_{10}	63.9
L_{50}	46.8
L_{90}	41.7
SEL	

Observed Noise Sources/Events

Time	Noise Source/Event	dBA
14:53	School Bus passing by	~65

Comments:

Equipment: LxT 2 Measured Difference: 0.04 dBA
Settings: A-Weighted ☐ Other☐_____ Slow☐ Fast☐ Windscreen■

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)	
Comments:	Light breeze, 66 F			

Photos Taken:

Photo Number	Location/Description
1	Facing North
2	Facing East
3	Facing South
4	Facing West

Traffic Description:

Roadway	# Lanes	Posted Speed	Average Speed	NB/EB Counts	SB/WB Counts
El Centro Avenue	2	30		See ST 1 for similar	See ST 1 for similar

Diagram/Further Comments:

Project Number: 3552.0019 Sheet ___of ___
Project Name: Zinfandel Subdivision
Test Personnel: Henrique Zhu

NOISE MEASUREMENT SURVEY

Site Number: ST3 Date: 03/20/24 Time: From 15:05 To 15:21

Site Location: At southern end of Moss Lane cul-de-sac. 50 feet west of southwest corner of project site.

Primary Noise Sources: Moss Lane traffic, residential and natural creek noises, distant road traffic.

Measurement Results

	dBA
L_{eq}	48.2
L_{max}	61.1
L_{min}	42.8
L_{peak}	101.4
L_5	52.9
L_{10}	50.4
L_{50}	46.0
L_{90}	44.4
SEL	

Observed Noise Sources/Events

Time	Noise Source/Event	dBA
15:11	Loud engine from distant traffic	60

Comments:

Equipment: LxT 2 Measured Difference: 0.04 dBA
Settings: A-Weighted ☐ Other☐_____ Slow☐ Fast☐ Windscreen■

Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)	
Comments:	Light breeze, 67 F			

Photos Taken:

Photo Number	Location/Description
1	Facing North
2	Facing East
3	Facing South
4	Facing West

Traffic Description:

Roadway	# Lanes	Posted Speed	Average Speed	NB/EB Counts	SB/WB Counts
Moss Lane	2	25			

Diagram/Further Comments:

FCS
An ADEC Innovation

Appendix H:

Transportation Supporting Information

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H.1 - Traffic Impact Study

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Traffic Impact Study for the Zinfandel Estate Subdivision

Prepared for the City of Napa

Submitted by
W-Trans

August 1, 2019

TRAFFIC ENGINEERING
TRANSPORTATION PLANNING
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Table of Contents

Executive Summary 1

Introduction 2

Transportation Setting 4

Capacity Analysis 7

Alternative Modes 17

Access and Circulation 18

Conclusions and Recommendations 20

Study Participants and References 21

Figures

1. Study Area and Lane Configurations 3
2. Existing Traffic Volumes 10
3. Future Traffic Volumes 11
4. Site Plan 13
5. Project Traffic Volumes and Trip Distribution 15

Tables

1. Collision Rates at the Study Intersections 5
2. Bicycle Facility Summary 6
3. Intersection Level of Service Criteria 8
4. Existing Peak Hour Intersection Levels of Service 9
5. Future Peak Hour Intersection Levels of Service 12
6. Trip Generation Summary 12
7. Trip Distribution Assumptions 14
8. Existing and Existing plus Project Peak Hour Intersection Levels of Service 14
9. Future and Future plus Project Peak Hour Intersection Levels of Service 16

Appendices

A. Collision Rate Calculations
B. Traffic Counts, Adjustment Factors, & Growth Factor Calculations
C. Intersection Level of Service Calculations
D. Turn-Lane Warrants

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Executive Summary

The proposed Zinfandel Estate project would be located on the south side of El Centro Avenue and would include 53 single-family homes and five accessory dwelling units on 53 lots that would be accessed via a new residential street and a private drive off of Lassen Street. Based on application of standard trip generation rates, the project is anticipated to generate an average of 539 new daily trips, including 42 trips during the a.m. peak hour and 56 trips during the p.m. peak hour.

Peak hour traffic conditions at the nearby intersections of SR 29/Wine Country Avenue and Jefferson Street/ El Centro Avenue were evaluated to determine the potential impacts associated with development of the project under Existing and Future Conditions. Under Existing Conditions, both intersections are operating acceptably at LOS C or better overall during both peak hours and are expected to continue operating at the same levels of service under Existing plus Project Conditions. Upon the addition of project-related traffic to Future volumes, the intersections are expected to continue operating acceptably at LOS C or better overall during both peak hours.

The project would improve access for alternative modes via the provision of a separated sidewalk along the project frontage with El Centro Avenue, consistent with the City's plans for the roadway. Existing transit service is adequate for the anticipated demand and though currently adequate, bicycle facilities will be improved upon completion of the planned projects contained in the *City of Napa Bicycle Plan*.

Sight distance on El Centro Avenue is adequate to accommodate the proposed turning movements at both project access points, and neither intersection would meet left-turn lane warrants. As proposed in the most recent concept site plan on-site circulation is expected to operate acceptably, though it is recommended that stop signs be installed on the Clementina Circle approaches to El Centro Avenue along with crosswalks on the southern legs of the intersections.

Introduction

This report presents an analysis of the potential traffic impacts that would be associated with development of a proposed 53-lot residential subdivision to be located on El Centro Avenue in the City of Napa. The traffic study was completed in accordance with the criteria established by the City of Napa, and is consistent with standard traffic engineering techniques.

Prelude

The purpose of a traffic impact study is to provide City staff and policy makers with data that they can use to make an informed decision regarding the potential traffic impacts of a proposed project, and any associated improvements that would be required in order to mitigate these impacts to a level of insignificance as defined by the City's General Plan or other policies. Vehicular traffic impacts are typically evaluated by determining the number of new trips that the proposed use would be expected to generate, distributing these trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the proposed project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments. Impacts relative to access for pedestrians, bicyclists, and to transit are also addressed.

Project Profile

The proposed project would include development of a 53-lot subdivision on a parcel currently occupied by vineyards and two single-family dwellings, one of which would be removed as part of the project. The project site is located on the south side of El Centro Avenue and west of Moss Lane in the City of Napa. All but three of the 53 total lots would be located on the north side of Salvador Creek, which divides the site, and would be accessed via a proposed residential street called Clementina Circle; the remaining three lots would be located south of the creek and would be accessed via a private drive from Lassen Street.

The project location is shown in Figure 1.

nap139.ai 12/17

Traffic Impact Study for the Zinfandel Estate Subdivision

Figure 1 – Study Area and Lane Configurations

Transportation Setting

Operational Analysis

Study Area and Periods

The study area consists of El Centro Avenue fronting the project and the project access point as well as the following intersections:

1. State Route (SR) 29/Wine Country Avenue
2. Jefferson Street/El Centro Avenue

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

Study Intersections

SR 29/Wine Country Avenue is a signalized, four-legged intersection with protected left-turn phasing on both SR 29 approaches, while the eastbound and westbound approaches of Wine Country Avenue have permitted left-turn phasing. A crosswalk with pedestrian phasing is provided on the northern leg and signs are present prohibiting pedestrian crossings of all other legs, directing pedestrians to cross at adjacent intersections.

Jefferson Street/El Centro Avenue is an unsignalized tee-intersection stop-controlled on the eastbound El Centro Avenue approach. An alley way creates a fourth leg to the intersection on the eastern side of Jefferson Street, though it is offset approximately 50 feet south of El Centro Avenue so is actually outside the area that makes up the intersection. Crosswalks are provided on the north and west legs.

The locations of the study intersections and the existing lane configurations and controls are shown in Figure 1.

Study Roadways

El Centro Avenue is a residential street that runs east-west and is bound by Byway East on the west and Big Ranch Road on the east, but is disconnected at Jefferson Street. The segment west of Jefferson Street is approximately one-half mile in length and has a posted speed limit of 30 miles per hour (mph) except for the section adjacent to the El Centro Elementary School where the standard school zone speed limit of 25 mph "when children are present" is posted. The roadway varies in width between 28 and 40 feet depending on whether or not frontage improvements have been made to parcels on the southern side of the street. Street parking is permitted in the westbound direction and in select locations in the eastbound direction.

Collision History

The collision history for the study area was reviewed 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 five-year period available is January 1, 2012 through December 31, 2016.

As presented in Table 1, the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide, as indicated in *2014 Collision Data on California State Highways*, California Department of Transportation (Caltrans). The study intersection of SR 29/Wine Country Avenue had a calculated collision rate below the statewide average for similar facilities and there were no reported collisions at Jefferson Street/El Centro Avenue, indicating that there are no readily apparent safety issues at either intersection. The collision rate calculations are provided in Appendix A.

Table 1 – Collision Rates at the Study Intersections

Study Intersection	Number of Collisions (2012-2016)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. SR 29/Wine Country Ave	12	0.22	0.27
2. Jefferson St/El Centro Ave	0	0.00	0.18

Note: c/mve = collisions per million vehicles entering

Alternative Modes

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a connected sidewalk network is present on the northern side of El Centro Avenue, but it is sporadic on the southern side. Curb ramps and crosswalks at side street approaches are present in the locations that do have sidewalks, but not all are equipped with truncated domes are therefore not compliant with current ADA standards. Lighting is provided by overhead street lights and there is a single crosswalk on El Centro Avenue located just east of Verbena Street.

Bicycle Facilities

The *Highway Design Manual*, Caltrans, 2017, classifies bikeways into three categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.

Class II bike lanes exist on the majority of Jefferson Street and there are plans to provide a Class III bike route on El Centro Avenue. Additionally, a 12.5-mile segment of the Vine Trail is completed and runs parallel to SR 29 between Trancas Street in Napa and Madison Street in Yountville; the trail is located approximately one-quarter mile west of the project site and when completed would provide regional bicycle access between Vallejo and Calistoga. A future Class I trail is also planned along Salvador Creek between Jefferson Street and SR 29 and would connect the project site to the Vine Trail. Table 2 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the *City of Napa Bicycle Plan*.

Table 2 – Bicycle Facility Summary				
Status **Facility**	**Class**	**Length (miles)**	**Begin Point**	**End Point**
Existing				
Vine Trail	I	12.5	Kennedy Park	Madison St
Jefferson St	II	0.9	El Centro Ave	Rubicon St
Jefferson St	II	0.3	Darling St	Salvador Ave
Planned				
Vine Trail	I	Regional	Vallejo	Calistoga
Salvador Creek Trail	I	0.7	Jefferson St	SR 29
El Centro Ave	III	0.8	SR 29	Heather Lane

Source: *City of Napa Bicycle Plan*, W-Trans, 2012

Transit Facilities

Transit Services in the City of Napa, and throughout Napa County, are provided by Napa Valley Transit (VINE). VINE Route 7 provides service between Salvador Avenue and the Kaiser Permanente medical offices on Claremont Way every day of the week except for Sunday and stops on Byway East just north of El Centro Avenue and on Jefferson Street just south of Maximilian Court. Both stops are roughly one-quarter mile from the project site, which is considered an acceptable walking distance.

Dial-a-ride, also known as paratransit or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. VINE Go is VINE's paratransit service and is designed to serve the needs of individuals with disabilities in the cities of Calistoga, St. Helena, Napa, American Canyon, the Town of Yountville and the unincorporated areas of Napa County. Reservations are required and, while can be made the same day of the trip, are recommended to be made in advance.

Capacity Analysis

Intersection Level of Service Methodologies

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

The study intersection of Jefferson Street/El Centro Avenue was analyzed using methodologies published in the *Highway Capacity Manual (HCM)*, Transportation Research Board, 2010, while the intersection of SR 29/Wine Country Avenue was analyzed using the year 2000 version of the same methodology due to the proximity of the Wine Country Avenue/Solano Avenue intersection, which the 2010 version does not have the capability to analyze. Both versions of the HCM contain methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

The Levels of Service for Jefferson Street/El Centro Avenue, which has side-street stop controls, were analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM 2010. This methodology determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

SR 29/Wine Country Avenue was evaluated using the signalized methodology from the HCM 2000. This methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. Timing sheets were obtained from Caltrans and used in this analysis, though it should be noted that there is a timing study currently ongoing and the signal timing could be modified in the near term.

The ranges of delay associated with the various levels of service are indicated in Table 3.

Table 3 – Intersection Level of Service Criteria		
LOS	**Two-Way Stop-Controlled**	**Signalized**
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Reference: *Highway Capacity Manual,* Transportation Research Board, 2000

Traffic Operation Standards

City of Napa

The City of Napa established a Level of Service (LOS) Standard of mid-LOS D for signalized intersections in Policy T-2.1 of *Envision Napa 2020: City of Napa General Plan*, and mid-LOS E for unsignalized intersections. This translates to an allowable average delay of 45 seconds at signalized intersections and 42.5 seconds or less for unsignalized intersections.

In *City of Napa Traffic Impact Study Guidelines*, City of Napa, 2004, the City establishes levels of significance for a situation where an intersection operates unacceptably without the influence of a proposed project.

> *When a signalized intersection operates at LOS F (a violation of the General Plan LOS policy) under existing or interim baseline conditions, the addition of more than 50 peak hour project trips contributes to the continuing operational failure at the intersection. The project mitigation should bring the facility to pre-project conditions.*
>
> *When a low-volume movement at an unsignalized intersection has delays that yield LOS E or F, operation may still be considered as acceptable by considering both total delay and LOS; operation may be deemed acceptable if the total delay is less than 4.0 hours for a single lane movement or 5.0 vehicle hours for a multilane movement.*

Caltrans

Caltrans indicates that they endeavor to maintain operation at the transition from LOS C to LOS D.

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the weekday a.m. and p.m. peak periods. This condition does not include project-generated traffic

volumes. Volume data for Jefferson Street/El Centro Avenue was collected in December 2016 and traffic counts for SR 29/El Centro Avenue were collected in August 2017.

Peak hour factors (PHF's) were calculated based on the counts and used in the analysis, except where the calculated PHF was less than 0.90, in which case 0.90 was used as a floor to avoid overly conservative results. Additionally, monthly and daily adjustment factors were applied to the counts at both study intersections to reflect volumes anticipated on a typical Thursday in August, as required by the City of Napa *Policy Guidelines: Traffic Impact Analysis for Private Development Review.* The traffic counts and adjustment factors are included in Appendix B.

Intersection Levels of Service

Under Existing Conditions, both study intersections are operating acceptably overall and on the El Centro Avenue approach at LOS C or better during both peak hours. The Existing traffic volumes are shown in Figure 2. A summary of the intersection level of service calculations is contained in Table 4, and copies of the Level of Service calculations for all evaluated scenarios are provided in Appendix C.

Table 4 – Existing Peak Hour Intersection Levels of Service

Study Intersection *Approach*	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. SR 29/Wine Country Ave	29.1	C	29.7	C
2. Jefferson St/El Centro Ave	4.9	A	2.8	A
Eastbound (El Centro Ave) Approach	*17.8*	*C*	*12.3*	*B*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

It is noted that delay at the intersection of SR 29/Wine Country Avenue is likely higher than projected using the HCM 2000 methodology, which does not take initial queues into account as is done by the HCM 2010 methodology. However, since the comparative change due to the project would likely be of the same magnitude under either methodology, for purposes of determining project impacts, the comparison is valid and adequate.

Future Conditions

Future volumes for the horizon year 2040 were calculated based on output from the *Napa Solano Travel Demand Model*, maintained by the Solano Transportation Authority (STA). Base year (2015) and future (2040) segment volumes for the weekday a.m. and p.m. peak periods were used to calculate growth factors for the study intersections.

The growth factors projected by the model were adjusted to account for the two years of growth that occurred between 2015 and the 2017 existing counts. The existing counts were then multiplied by the growth factor to project likely Future weekday a.m. and p.m. turning movement volumes at the study intersections. Growth factors of 1.24 and 1.10 were calculated for SR 29/Wine Country Avenue and Jefferson Street/El Centro Avenue, respectively, during both peak hours. The growth factor calculations are included in Appendix B.

Intersection Levels of Service

Under the anticipated Future volumes, both study intersections are expected to continue operating acceptably at the same levels of service as under Existing Conditions. Future volumes are shown in Figure 3 and operating conditions are summarized in Table 5.

nap139.ai 12/17

Traffic Impact Study for the Zinfandel Estate Subdivision

Figure 2 – Existing Traffic Volumes

nap139.ai 12/17

Traffic Impact Study for the Zinfandel Estate Subdivision

Figure 3 – Future Traffic Volumes

Table 5 – Future Peak Hour Intersection Levels of Service				
Study Intersection *Approach*	**AM Peak**		**PM Peak**	
	Delay	**LOS**	**Delay**	**LOS**
1. SR 29/Wine Country Ave	31.6	C	33.1	C
2. Jefferson St/El Centro Ave	5.7	A	3.0	A
Eastbound (El Centro Ave) Approach	*21.4*	*C*	*13.1*	*B*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Project Description

The proposed project would result in development of 53 lots with a total of 53 single-family dwellings and five accessory dwelling units (ADUs). The property is currently occupied by vineyards and two single-family dwellings, one of which would be removed as part of the project. The project site is located on the south side of El Centro Avenue between Moss Lane and Hampton Way in the northern part of the City of Napa. Of the 53 total lots, 50 would be located north of Salvador Creek and three would be located south of the creek. The project would also include construction of a new residential street called Clementina Circle that would provide access to the homes north of Salvador Creek; the homes on the south side of the creek would be accessed via a private drive extending east from Lassen Street.

The proposed project site plan is shown in Figure 4.

Trip Generation

The anticipated trip generations for both the existing and proposed uses were estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017. Rates for "Single-Family Detached Housing" (Land Use #210) were applied to the existing single-family home that would be removed and the proposed new homes. It should be noted that although the ADUs could potentially generate fewer trips than the rest of the dwellings, rates for Single-Family Detached Housing were applied to all proposed units to provide a conservative analysis.

The proposed project is expected to generate an average of 548 trips per day, including 43 trips during the a.m. peak hour and 57 trips during the p.m. peak hour. After deducting trips associated with removal of the existing single-family dwelling, the project would be anticipated to generate 539 new trips per day on average, with 42 trips during the morning peak hour and 56 trips during the evening peak hour; these trips represent the net increase in traffic associated with the proposed project compared to existing volumes. These results are summarized in Table 6.

Table 6 – Trip Generation Summary											
Land Use	**Units**	**Daily**		**AM Peak Hour**				**PM Peak Hour**			
		Rate	**Trips**	**Rate**	**Trips**	**In**	**Out**	**Rate**	**Trips**	**In**	**Out**
Existing											
Single-Family Detached Housing	-1 du	9.44	-9	0.74	-1	0	-1	0.99	-1	-1	0
Proposed											
Single-Family Detached Housing	58 du	9.44	548	0.74	43	11	32	0.99	57	36	21
Net New Trips			**539**		**42**	**11**	**31**		**56**	**35**	**21**

Note: du = dwelling unit

Source: RSA+, 7/19 nap139.ai 8/19

Traffic Impact Study for the Zinfandel Estate Subdivision

Figure 4 – Site Plan

Trip Distribution

The pattern used to allocate new project trips to the street network was determined based on familiarity with the area and surrounding region, as well as anticipated origins/destinations for residents of the subdivision. The applied distribution assumptions and resulting trips are shown in Table 7. It should be noted that although some trips to and from SR 29 south of the project site would likely be made via the SR 29/Trower Avenue intersection, it was assumed that these project trips would pass through the study intersection at Wine Country Avenue to provide conservative results.

Table 7 – Trip Distribution Assumptions

Route	Percent	Daily Trips	AM Trips	PM Trips
SR 29 (North)	15%	81	6	8
SR 29 (South)	50%	270	21	28
Jefferson St (North)	5%	27	2	3
Jefferson St (South)	30%	161	13	17
TOTAL	**100%**	**539**	**42**	**56**

It is noted that the following operational and access analysis was prepared based on a previously proposed larger version of the project that included one more lot and resulted in an average of 548 new trips per day including 43 a.m. trips and 57 p.m. trips. The analysis, as presented, reflects the potential impacts associated with the slightly larger project and is therefore conservative.

Intersection Operation

Existing plus Project Conditions

Upon the addition of project-related traffic to existing volumes, the study intersections are expected to continue operating acceptably at the same levels of service as under Existing Conditions. These results are summarized in Table 8 and project traffic volumes are shown in Figure 5.

Table 8 – Existing and Existing plus Project Peak Hour Intersection Levels of Service

Study Intersection *Approach*		Existing Conditions				Existing plus Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1.	SR 29/Wine Country Ave	29.1	C	29.7	C	30.4	C	30.2	C
2.	Jefferson St/El Centro Ave	4.9	A	2.8	A	5.2	A	3.1	A
	EB (El Centro Ave) Approach	*17.8*	*C*	*12.3*	*B*	*18.4*	*C*	*12.7*	*B*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*; EB = Eastbound

Finding – The study intersections are expected to continue operating acceptably at the same Levels of Service upon the addition of project-generated traffic to existing volumes and the project's impact on short-term operation is therefore *less-than-significant*.

nap139.ai 8/18

Traffic Impact Study for the Zinfandel Estate Subdivision

Figure 5 – Project Traffic Volumes and Trip Distribution

Future plus Project Conditions

Upon the addition of project-generated traffic to the anticipated future volumes, the study intersections are expected to continue operating acceptably at the same Levels of Service. The Future plus Project operating conditions are summarized in Table 9.

Table 9 – Future and Future plus Project Peak Hour Intersection Levels of Service

	Study Intersection ***Approach***	**Future Conditions**				**Future plus Project**			
		AM Peak		**PM Peak**		**AM Peak**		**PM Peak**	
		Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1.	SR 29/Wine Country Ave	31.6	C	33.1	C	33.8	C	32.8	C
2.	Jefferson St/El Centro Ave	5.7	A	3.0	A	6.2	A	3.2	A
	EB (El Centro Ave) Approach	*21.4*	*C*	*13.1*	*B*	*22.6*	*C*	*13.5*	*B*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*; EB = Eastbound

It should be noted that with the addition of project-related traffic volumes, average delay at SR 29/Wine Country Avenue is projected to decrease slightly during the p.m. peak hour. While this is counter-intuitive, this condition occurs when a project adds trips to movements that are underutilized or have delays that are below the intersection average, resulting in a better balance between approaches and lower overall average delay. The project would add trips predominantly to the northbound right-turn movement at this intersection during the evening peak hour, which has a lower average delay than the intersection as a whole, resulting in a slight reduction in the overall average delay. The conclusion could incorrectly be drawn that the project actually improves operation of the intersection based on this data alone; however, it is more appropriate to conclude that the project trips are expected to make use of excess capacity, so drivers will experience little, if any, change in conditions as a result of the project.

Finding – The study intersections will continue operating acceptably with project traffic added to Future volumes and at the same Levels of Service as without it; the project's long term impact is therefore *less-than-significant*.

Alternative Modes

Pedestrian Facilities

Given the proximity of the project site to the transit stops located on Byway East and Jefferson Street, it is reasonable to assume that some residents of the subdivision would want to be able to walk to the stops and use the transit service. Additionally, some project residents may wish to walk to El Centro Elementary School which is located on the north side of El Centro Avenue and east of the project site.

Based on the most recent site plan, the project would provide improvements along its entire frontage with El Centro Avenue consistent with the improvements that have already been made and the City's future plans for the roadway. Such improvements include widening El Centro Avenue by approximately 12 feet and providing a separated sidewalk which would improve access for pedestrians and connect the site to the surrounding pedestrian network.

Finding – The project would improve access for pedestrians via frontage improvements and El Centro Avenue would be closer to having a connected sidewalk along its entirety.

Bicycle Facilities

Existing bicycle facilities, including bike lanes on Jefferson Street, together with shared use of minor streets provide adequate access for bicyclists and would be further improved upon completion of the planned improvements outlined in the *City of Napa Bicycle Plan*. The project does not include any components that would potentially interfere with carrying out the planned bicycle projects.

Finding – Bicycle facilities serving the project site are adequate, but access will be improved upon completion of the planned improvements identified in the *City of Napa Bicycle Plan*.

Transit

Existing transit routes are adequate to accommodate project-generated transit trips and the stops are within acceptable walking distance of the site.

Finding – Transit facilities serving the project site are adequate.

Access and Circulation

Site Access

As proposed, a new residential street, Clementina Circle, would form a loop on the south side of El Centro Avenue and provide access to the majority of the lots in the subdivision. The three lots on the southern parcel would be accessed via a private drive extending east from of Lassen Street. Clementina Circle would intersect El Centro Avenue in two places; the western intersection would be opposite Via La Paz and the eastern intersection would be located just east of the existing driveway to the home that would be removed as part of the project.

Finding – As proposed, on-site circulation would be expected to operate acceptably, though the concept site plan does not indicate what controls would be used at the project intersections with El Centro Avenue.

Recommendation – Consistent with other minor street approaches in the project vicinity, the Clementina Circle approaches to El Centro Avenue should be stop-controlled and crosswalks should be provided on the southern legs of both intersections.

Sight Distance

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. Adequate time should be provided for the waiting vehicle to either cross, turn left, or turn right, without requiring the through traffic to radically alter their speed, if feasible.

Sight distances along El Centro Avenue at the proposed intersections with Clementina Circle were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distances for unsignalized intersections are based on corner sight distance, with approach travel speeds used as the basis for determining the recommended sight distance. Sight distance should be measured from a 3.5-foot height at the location of the driver on the minor road to a 4.25-foot object height in the center of the approaching lane of the major road. Set-back for the driver on the crossroad shall be a minimum of 15 feet, measured from the edge of the traveled way.

For the posted 30-mph speed limit, the recommended corner sight distance is 330 feet. Based on a review of field conditions, sight distance at both of the proposed intersection locations extends more than 400 feet in each direction, which is more than adequate for the posted speed limit.

Finding – Adequate sight distance is available at both proposed intersection locations to accommodate all turns into and out of the subdivision.

Recommendation – To preserve existing sight lines, it is recommended that any vegetation planted along the project frontage with El Centro Avenue be planted and maintained such that foliage is less than three, or more than seven, feet off the ground.

Access Analysis

Left-Turn Lane Warrants

The need for left-turn lanes on El Centro Avenue at the proposed intersections with Clementina Circle were evaluated based on criteria contained in the *Intersection Channelization Design Guide*, National Cooperative Highway Research Program (NCHRP) Report No. 279, Transportation Research Board, 1985, as well as a more recent

update of the methodology developed by the Washington State Department of Transportation. The NCHRP report references a methodology developed by M. D. Harmelink that includes equations that can be applied to expected or actual traffic volumes in order to determine the need for a left-turn pocket based on safety issues.

Based on Future plus Project volumes, which represents worst case conditions, a left-turn lane would not be warranted on El Centro Avenue at either intersection. It should be noted that for the purposes of this evaluation it was assumed that half of the total trips would occur at each of the two access points, though even with all of the trips assigned to enter via one access point a turn lane would still not be warranted. The turn lane warrants analysis sheets are contained in Appendix D.

Finding – A left-turn lane would not be warranted on El Centro Avenue at either of the proposed intersections with Clementina Circle.

Conclusions and Recommendations

Conclusions

- The proposed project is expected to generate an average of 539 new daily vehicle trips, including 42 trips during the morning peak hour and 56 trips during the evening peak hour.
- The study intersections of SR 29/Wine Country Avenue and Jefferson Street/El Centro Avenue are currently operating acceptably at LOS C or better overall and on all minor street approaches during both peak hours. Upon the addition of project-related traffic, both study intersections would continue to operate at the same Levels of Service as without the project.
- Under the anticipated Future volumes, both intersections would be expected to continue operating acceptably, with or without project-generated traffic.
- The project would improve access for alternative modes via the provision of a separated sidewalk along the project frontage with El Centro Avenue. Existing transit service is adequate for the anticipated demand and though currently adequate, bicycle facilities will be improved upon completion of the planned projects contained in the *City of Napa Bicycle Plan*.
- Sight distance on El Centro Avenue is adequate to accommodate the proposed turning movements at both project access points.
- On-site circulation is expected to operate acceptably.
- A left-turn lane would not be warranted at either of the proposed intersections of El Centro Avenue with Clementina Circle.

Recommendations

- The proposed Clementina Circle approaches to El Centro Avenue should be stop-controlled and crosswalks should be provided on the southern legs of both intersections.
- Any new vegetation planted along the project frontage with El Centro Avenue should be planted and maintained such that foliage is less than three, or more than seven, feet off the ground to maintain existing adequate sight lines.

Study Participants and References

Study Participants

Principal in Charge	Dalene J. Whitlock, PE, PTOE
Assistant Engineer	Cameron Nye, EIT, and Kevin Rangel, EIT
Graphics/Formatting	Katia Wolfe

References

2014 Collision Data on California State Highways, California Department of Transportation, 2017
California Manual on Uniform Traffic Control Devices for Streets and Highways, California Department of Transportation, 2014
City of Napa Bicycle Plan, W-Trans, 2012
City of Napa Traffic Impact Study Guidelines, City of Napa, 2004
Envision Napa 2020: City of Napa General Plan, City of Napa, 2011
Guide for the Preparation of Traffic Impact Studies, California Department of Transportation, 2002
Highway Capacity Manual, Transportation Research Board, 2000
Highway Capacity Manual, Transportation Research Board, 2010
Highway Design Manual, 6th Edition, California Department of Transportation, 2017
Intersection Channelization Design Guide, National Cooperative Highway Research Program (NCHRP) Report No. 279, Transportation Research Board, 1985
Napa Municipal Code, Quality Code Publishing, 2017
Policy Guidelines: Traffic Impact Analysis for Private Development Review, City of Napa, 2005
Statewide Integrated Traffic Records System (SWITRS), California Highway Patrol, 2012-2016
Trip Generation Manual, 10th Edition, Institute of Transportation Engineers, 2017
VINE Transit, http://www.ridethevine.com

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Appendix A

Collision Rate Calculations

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Intersection Collision Rate Calculations

Zinfandel Estate TIS

Intersection # 1: SR 29 & Wine Country Ave

Date of Count: Tuesday, December 12, 2017

Number of Collisions: 10
Number of Injuries: 5
Number of Fatalities: 0
ADT: 25100
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{10 \times 1{,}000{,}000}{25{,}100 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.22 c/mve**	**0.0%**	**50.0%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 2: Jefferson St & El Centro Ave

Date of Count: Tuesday, December 12, 2017

Number of Collisions: 0
Number of Injuries: 0
Number of Fatalities: 0
ADT: 7300
Start Date: January 1, 2012
End Date: December 31, 2016
Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{0 \times 1{,}000{,}000}{7{,}300 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.00 c/mve**	**0.0%**	**0.0%**
Statewide Average*	**0.18 c/mve**	**0.7%**	**36.4%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

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Appendix B

Traffic Counts, Adjustment Factors, & Growth Factor Calculations

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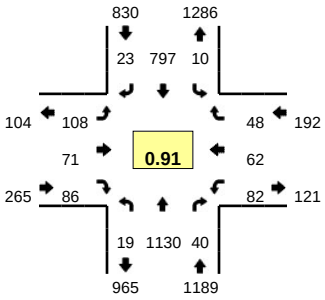
Type of peak hour being reported: Intersection Peak

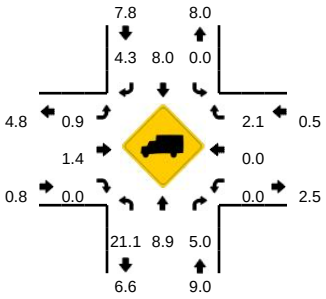
Method for determining peak hour: Total Entering Volume

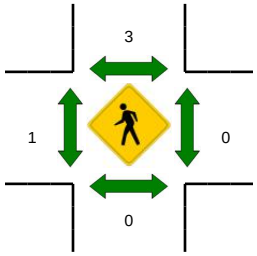
LOCATION: SR 29 -- Wine Country Ave
CITY/STATE: Napa, CA

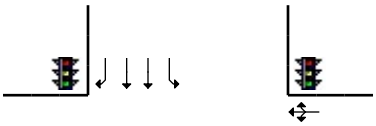
QC JOB #: 14460210
DATE: Tue, Aug 29 2017

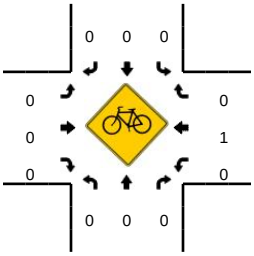
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

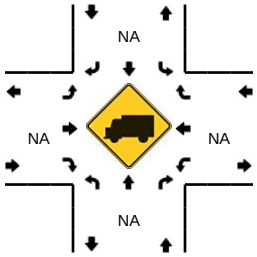


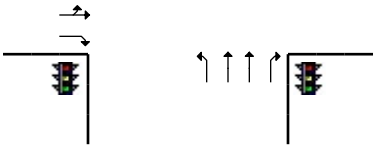


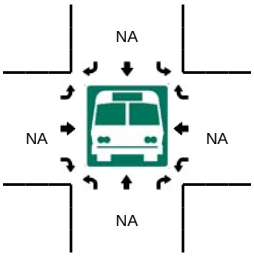












5-Min Count Period Beginning At	SR 29 (Northbound)				SR 29 (Southbound)				Wine Country Ave (Eastbound)				Wine Country Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	81	2	0	0	52	1	0	0	0	1	0	4	2	2	0	147	
7:05 AM	2	110	0	1	1	71	0	0	1	1	2	0	3	4	1	0	197	
7:10 AM	1	82	0	0	0	40	0	0	3	2	5	0	6	2	3	0	144	
7:15 AM	2	94	2	0	0	41	0	0	5	1	4	0	6	1	3	0	159	
7:20 AM	4	113	3	0	0	68	1	0	7	7	0	0	4	4	1	0	212	
7:25 AM	3	84	3	0	0	75	2	0	2	2	8	0	2	1	3	0	185	
7:30 AM	0	95	2	0	1	58	3	0	8	2	3	0	6	1	4	0	183	
7:35 AM	0	109	1	0	1	84	1	0	10	5	13	0	9	3	0	0	236	
7:40 AM	2	78	1	0	0	73	3	0	11	5	8	0	10	8	5	0	204	
7:45 AM	1	104	4	0	1	75	1	0	11	13	6	0	6	9	10	0	241	
7:50 AM	2	74	6	0	0	64	2	0	10	8	10	0	12	8	3	0	199	
7:55 AM	2	89	7	0	2	51	1	0	7	8	15	0	9	8	4	0	203	2310
8:00 AM	4	105	4	0	2	76	2	0	8	8	2	0	7	6	5	0	229	2392
8:05 AM	1	94	6	0	0	61	2	0	12	5	5	0	3	2	5	0	196	2391
8:10 AM	0	94	4	0	2	58	0	0	8	6	4	0	6	5	2	0	189	2436
8:15 AM	4	70	4	0	2	70	3	0	9	4	6	0	5	2	3	0	182	2459
8:20 AM	1	109	1	0	0	42	5	0	8	0	7	0	4	4	4	0	185	2432
8:25 AM	1	77	0	0	0	83	1	0	10	4	2	0	10	2	5	0	195	2442
8:30 AM	1	127	2	0	0	60	2	0	4	5	8	0	1	5	2	0	217	2476
8:35 AM	0	60	3	0	1	73	3	0	4	4	9	0	7	5	7	0	176	2416
8:40 AM	2	118	4	0	2	107	3	0	3	2	6	0	6	6	4	0	263	2475
8:45 AM	4	98	3	0	1	53	9	0	9	2	6	0	5	2	3	0	195	2429
8:50 AM	4	63	2	0	1	87	7	0	8	1	9	0	1	7	5	0	195	2425
8:55 AM	3	105	2	0	0	108	2	0	6	10	8	0	6	2	1	0	253	2475

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	1164	24	0	8	928	20	0	128	92	108	0	100	80	60	0	2724
Heavy Trucks	0	80	4		0	68	0		0	0	0		0	0	4		156
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/8/2017 1:59 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: SR 29 -- Wine Country Ave
CITY/STATE: Napa, CA

QC JOB #: 14460212
DATE: Tue, Aug 29 2017

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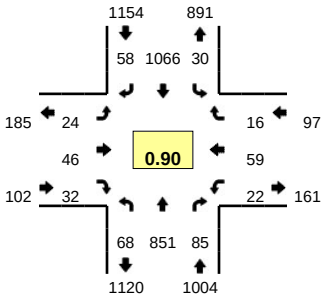
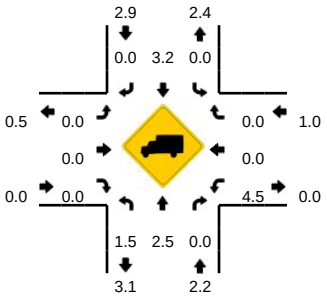
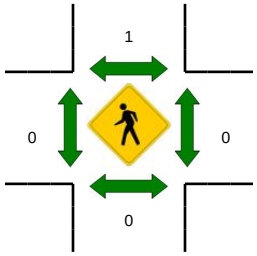
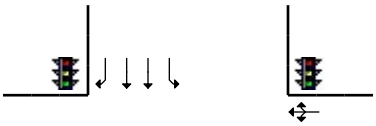
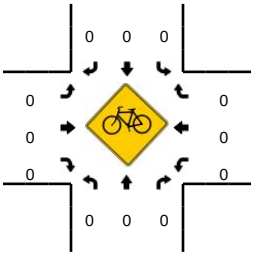
Peak 15-Min: 5:15 PM -- 5:30 PM

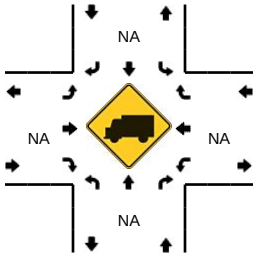


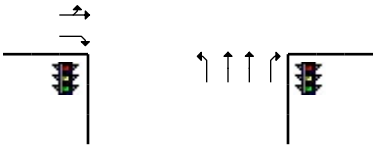


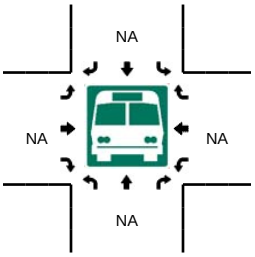












5-Min Count Period Beginning At	SR 29 (Northbound)				SR 29 (Southbound)				Wine Country Ave (Eastbound)				Wine Country Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	63	7	0	6	112	11	0	5	2	2	0	0	2	0	0	216	
4:05 PM	4	75	3	0	1	64	3	0	2	4	1	0	2	11	2	0	172	
4:10 PM	7	57	7	0	4	86	10	0	5	2	2	0	1	2	3	0	186	
4:15 PM	3	99	11	0	1	106	2	0	2	2	3	0	1	4	0	0	234	
4:20 PM	13	68	2	0	4	84	2	0	0	6	0	0	1	2	1	0	183	
4:25 PM	1	55	5	0	3	108	7	0	6	9	3	0	1	2	1	0	201	
4:30 PM	6	42	3	0	4	77	7	0	3	5	1	0	1	2	1	0	152	
4:35 PM	4	58	7	0	2	84	4	0	3	3	3	0	1	6	0	0	175	
4:40 PM	2	63	4	0	2	100	7	0	2	1	1	0	1	3	1	0	187	
4:45 PM	6	80	4	0	0	82	4	0	4	2	1	0	0	4	0	0	187	
4:50 PM	4	50	8	0	5	73	6	0	0	2	3	0	2	2	0	0	155	
4:55 PM	9	71	7	0	1	76	6	0	2	5	4	0	0	3	2	0	186	2234
5:00 PM	1	72	8	0	6	113	6	0	2	6	1	0	0	3	3	0	221	2239
5:05 PM	5	70	4	0	0	85	4	0	1	5	3	0	0	7	1	0	185	2252
5:10 PM	5	82	6	0	2	80	3	0	3	4	2	0	3	3	0	0	193	2259
5:15 PM	6	80	13	0	2	99	7	0	1	5	1	0	0	8	0	0	222	2247
5:20 PM	5	60	10	0	4	87	1	0	1	3	6	0	5	10	0	0	192	2256
5:25 PM	6	89	7	0	4	112	9	0	0	1	5	0	1	4	2	0	240	2295
5:30 PM	6	49	6	0	4	80	2	0	2	5	3	0	5	5	1	0	168	2311
5:35 PM	8	78	7	0	2	84	9	0	3	2	1	0	3	4	3	0	204	2340
5:40 PM	1	62	4	0	3	115	5	0	2	4	0	0	2	3	2	0	203	2356
5:45 PM	8	69	6	0	1	73	2	0	2	4	4	0	0	6	2	0	177	2346
5:50 PM	8	69	7	0	1	62	4	0	5	2	2	0	3	3	0	0	166	2357
5:55 PM	0	37	4	0	4	111	3	0	6	4	3	0	4	4	0	0	180	2351

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	68	916	120	0	40	1192	68	0	8	36	48	0	24	88	8	0	2616
Heavy Trucks	0	16	0		0	20	0		0	0	0		0	0	0		36
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/8/2017 1:59 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

National Data and Surveying Services

City of Napa
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 16-7869-002 Jefferson St & El Centro Ave
Date : 12/7/2016

Unshifted Count = All Vehicles & Uturns

	Jefferson St Southbound					El Centro Ave Westbound					Jefferson St Northbound					El Centro Ave Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	28	0	0	28	0	0	0	0	0	12	28	0	0	40	0	0	10	0	10	78	0
7:15	0	33	1	0	34	1	0	0	0	1	4	17	0	0	21	1	0	18	0	19	75	0
7:30	0	88	5	0	93	2	0	0	0	2	11	45	1	0	57	5	0	30	0	35	187	0
7:45	0	121	5	0	126	2	2	0	0	4	24	72	0	0	96	4	0	62	0	66	292	0
Total	0	270	11	0	281	5	2	0	0	7	51	162	1	0	214	10	0	120	0	130	632	0
8:00	0	70	3	0	73	1	0	0	0	1	39	66	0	0	105	4	0	30	0	34	213	0
8:15	0	58	2	0	60	0	0	1	0	1	29	46	0	0	75	2	1	37	0	40	176	0
8:30	0	35	1	0	36	0	0	0	0	0	9	32	0	0	41	2	0	15	0	17	94	0
8:45	4	52	1	0	57	0	0	0	0	0	7	31	0	0	38	1	0	14	0	15	110	0
Total	4	215	7	0	226	1	0	1	0	2	84	175	0	0	259	9	1	96	0	106	593	0
13:30	0	55	1	0	56	0	0	0	0	0	12	45	0	0	57	1	0	13	0	14	127	0
13:45	0	50	3	1	54	0	0	0	0	0	16	57	1	1	75	1	0	15	0	16	145	2
14:00	0	49	0	0	49	1	0	0	0	1	10	39	1	0	50	1	0	12	0	13	113	0
14:15	0	57	1	0	58	3	0	0	0	3	11	54	0	0	65	1	0	12	0	13	139	0
Total	0	211	5	1	217	4	0	0	0	4	49	195	2	1	247	4	0	52	0	56	524	2
14:30	0	46	2	0	48	0	0	0	0	0	21	37	2	0	60	0	0	19	0	19	127	0
14:45	0	70	1	0	71	1	0	0	0	1	19	56	0	0	75	0	0	20	0	20	167	0
15:00	0	72	0	0	72	0	0	0	0	0	37	84	3	0	124	1	1	22	0	24	220	0
15:15	0	73	4	0	77	0	0	0	0	0	20	83	0	0	103	1	0	39	0	40	220	0
Total	0	261	7	0	268	1	0	0	0	1	97	260	5	0	362	2	1	100	0	103	734	0
Grand Total	4	957	30	1	992	11	2	1	0	14	281	792	8	1	1082	25	2	368	0	395	2483	2
Apprch %	0.4%	96.5%	3.0%	0.1%		78.6%	14.3%	7.1%	0.0%		26.0%	73.2%	0.7%	0.1%		6.3%	0.5%	93.2%	0.0%			
Total %	0.2%	38.5%	1.2%	0.0%	40.0%	0.4%	0.1%	0.0%	0.0%	0.6%	11.3%	31.9%	0.3%	0.0%	43.6%	1.0%	0.1%	14.8%	0.0%	15.9%	100.0%	

AM PEAK HOUR	Jefferson St Southbound					El Centro Ave Westbound					Jefferson St Northbound					El Centro Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	88	5	0	93	2	0	0	0	2	11	45	1	0	57	5	0	30	0	35	187
7:45	0	121	5	0	126	2	2	0	0	4	24	72	0	0	96	4	0	62	0	66	292
8:00	0	70	3	0	73	1	0	0	0	1	39	66	0	0	105	4	0	30	0	34	213
8:15	0	58	2	0	60	0	0	1	0	1	29	46	0	0	75	2	1	37	0	40	176
Total Volume	0	337	15	0	352	5	2	1	0	8	103	229	1	0	333	15	1	159	0	175	868
% App Total	0.0%	95.7%	4.3%	0.0%		62.5%	25.0%	12.5%	0.0%		30.9%	68.8%	0.3%	0.0%		8.6%	0.6%	90.9%	0.0%		
PHF	.000	.696	.750	.000	.698	.625	.250	.250	.000	.500	.660	.795	.250	.000	.793	.750	.250	.641	.000	.663	.743

PM PEAK HOUR	Jefferson St Southbound					El Centro Ave Westbound					Jefferson St Northbound					El Centro Ave Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 14:30 to 15:30																					
Peak Hour For Entire Intersection Begins at 14:30																					
14:30	0	46	2	0	48	0	0	0	0	0	21	37	2	0	60	0	0	19	0	19	127
14:45	0	70	1	0	71	1	0	0	0	1	19	56	0	0	75	0	0	20	0	20	167
15:00	0	72	0	0	72	0	0	0	0	0	37	84	3	0	124	1	1	22	0	24	220
15:15	0	73	4	0	77	0	0	0	0	0	20	83	0	0	103	1	0	39	0	40	220
Total Volume	0	261	7	0	268	1	0	0	0	1	97	260	5	0	362	2	1	100	0	103	734
% App Total	0.0%	97.4%	2.6%	0.0%		100.0%	0.0%	0.0%	0.0%		26.8%	71.8%	1.4%	0.0%		1.9%	1.0%	97.1%	0.0%		
PHF	.000	.894	.438	.000	.870	.250	.000	.000	.000	.250	.655	.774	.417	.000	.730	.500	.250	.641	.000	.644	.834

Quality Counts LLC
City of Napa 2016

Street Name : El Centro Ave
Segment : btwn Byway E & Jefferson St
Location : 38.33515, -122.31824

Site: 13775024
4/26/2016
Tuesday

Daily Volume

Interval Start	WB		EB		Combined	
12:00 AM	0	1	0	1	0	2
12:15 AM	0		0		0	
12:30 AM	0		0		0	
12:45 AM	1		1		2	
1:00 AM	1	2	2	6	3	8
1:15 AM	0		1		1	
1:30 AM	0		1		1	
1:45 AM	1		2		3	
2:00 AM	0	0	0	0	0	0
2:15 AM	0		0		0	
2:30 AM	0		0		0	
2:45 AM	0		0		0	
3:00 AM	0	3	0	3	0	6
3:15 AM	1		2		3	
3:30 AM	1		1		2	
3:45 AM	1		0		1	
4:00 AM	0	4	0	0	0	4
4:15 AM	0		0		0	
4:30 AM	1		0		1	
4:45 AM	3		0		3	
5:00 AM	0	8	1	7	1	15
5:15 AM	1		1		2	
5:30 AM	4		2		6	
5:45 AM	3		3		6	
6:00 AM	1	25	3	19	4	44
6:15 AM	8		3		11	
6:30 AM	8		3		11	
6:45 AM	8		10		18	
7:00 AM	12	53	8	72	20	125
7:15 AM	7		12		19	
7:30 AM	18		20		38	
7:45 AM	16		32		48	
8:00 AM	31	84	32	112	63	196
8:15 AM	32		30		62	
8:30 AM	11		20		31	
8:45 AM	10		30		40	
9:00 AM	9	45	4	45	13	90
9:15 AM	10		7		17	
9:30 AM	8		16		24	
9:45 AM	18		18		36	
10:00 AM	9	38	12	39	21	77
10:15 AM	14		6		20	
10:30 AM	5		12		17	
10:45 AM	10		9		19	
11:00 AM	12	44	7	38	19	82
11:15 AM	12		12		24	
11:30 AM	7		9		16	
11:45 AM	13		10		23	

Interval Start	WB		EB		Combined	
12:00 PM	15	57	13	52	28	109
12:15 PM	16		7		23	
12:30 PM	12		17		29	
12:45 PM	14		15		29	
1:00 PM	8	60	17	55	25	115
1:15 PM	15		14		29	
1:30 PM	13		15		28	
1:45 PM	24		9		33	
2:00 PM	12	90	18	105	30	195
2:15 PM	14		28		42	
2:30 PM	42		29		71	
2:45 PM	22		30		52	
3:00 PM	38	95	24	73	62	168
3:15 PM	26		17		43	
3:30 PM	15		13		28	
3:45 PM	16		19		35	
4:00 PM	16	64	15	77	31	141
4:15 PM	15		22		37	
4:30 PM	15		21		36	
4:45 PM	18		19		37	
5:00 PM	18	70	26	96	44	166
5:15 PM	21		23		44	
5:30 PM	21		23		44	
5:45 PM	10		24		34	
6:00 PM	13	66	14	60	27	126
6:15 PM	22		13		35	
6:30 PM	13		13		26	
6:45 PM	18		20		38	
7:00 PM	13	57	13	56	26	113
7:15 PM	19		20		39	
7:30 PM	14		9		23	
7:45 PM	11		14		25	
8:00 PM	4	20	6	25	10	45
8:15 PM	9		6		15	
8:30 PM	4		5		9	
8:45 PM	3		8		11	
9:00 PM	5	15	4	19	9	34
9:15 PM	7		6		13	
9:30 PM	1		5		6	
9:45 PM	2		4		6	
10:00 PM	3	11	2	9	5	20
10:15 PM	3		6		9	
10:30 PM	1		1		2	
10:45 PM	4		0		4	
11:00 PM	2	5	2	7	4	12
11:15 PM	2		1		3	
11:30 PM	1		2		3	
11:45 PM	0		2		2	

Volume Totals

	WB	EB	Combined
12:00 AM - 12:00 PM			
	307	342	649
	(47.3%)	(52.7%)	
12:00 PM - 12:00 AM			
	610	634	1244
	(49.0%)	(51.0%)	
24 Hours			
	917	976	1893
	(48.4%)	(51.6%)	

Peak Hours

12:00 AM - 12:00 PM

	WB	EB	Combined
Started			
	7:30 AM	7:30 AM	7:30 AM
Volume			
	97	114	211
Factor			
	0.76	0.89	0.84

12:00 PM - 12:00 AM

	WB	EB	Combined
Started			
	2:30 PM	2:15 PM	2:30 PM
Volume			
	128	111	228
Factor			
	0.76	0.93	0.80

Exhibit C: Count Adjustment Factors

Monthly and Daily Factors for Converting Counts
To Average August Thursday Traffic

Day of Week Multiplier

Monday	1.043
Tuesday	1.020
Wednesday	1.010
Thursday	1.000
Friday	0.940

Month of Year Multiplier

January	1.179
February	1.161
March	1.133
April	1.083
May	1.064
June	1.009
July	1.015
August	1.000
September	1.037
October	1.078
November	1.067
December	1.158

Source: Napa Transportation Management Plan (TMP) Traffic Model

GROWTH FACTOR CALCULATIONS

Zinfandel Estate Subdivision TIS

	Int	AM 2015	AM 2040	AM Growth Factor	Adjusted for 2017
1	SR 29/Wine Country	15,332	19,481	1.27	**1.24**
2	Jefferson/El Centro	1,209	1,348	1.11	**1.10**

	Int	PM 2015	PM 2040	PM Growth Factor	Adjusted for 2017
1	SR 29/Wine Country	14,699	18,666	1.27	**1.24**
2	Jefferson/El Centro	1,603	1,769	1.10	**1.10**

Appendix C

Intersection Level of Service Calculations

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HCM Signalized Intersection Capacity Analysis
1: SR 29 & Wine Country Avenue

12/20/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	72	88	84	63	49	19	1153	41	10	813	23
Future Volume (vph)	110	72	88	84	63	49	19	1153	41	10	813	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1808	1583		1753		1770	3374	1583	1770	3374	1583
Flt Permitted		0.97	1.00		0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1808	1583		1753		1770	3374	1583	1770	3374	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	121	79	97	92	69	54	21	1267	45	11	893	25
RTOR Reduction (vph)	0	0	81	0	8	0	0	0	20	0	0	12
Lane Group Flow (vph)	0	200	16	0	207	0	21	1267	25	11	893	13
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3						2			6
Actuated Green, G (s)		22.8	22.8		21.4		7.3	76.3	76.3	1.6	70.6	70.6
Effective Green, g (s)		22.8	22.8		21.4		7.3	76.3	76.3	1.6	70.6	70.6
Actuated g/C Ratio		0.16	0.16		0.15		0.05	0.54	0.54	0.01	0.50	0.50
Clearance Time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Vehicle Extension (s)		3.0	3.0		3.0		3.0	5.5	5.5	3.0	5.5	5.5
Lane Grp Cap (vph)		294	257		267		92	1838	862	20	1701	798
v/s Ratio Prot		c0.11			c0.12		0.01	c0.38		c0.01	0.26	
v/s Ratio Perm			0.01						0.02			0.01
v/c Ratio		0.68	0.06		0.77		0.23	0.69	0.03	0.55	0.52	0.02
Uniform Delay, d1		55.2	49.6		57.0		63.6	23.2	14.7	68.8	23.4	17.3
Progression Factor		0.35	0.20		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		9.4	0.4		19.4		1.3	2.1	0.1	28.9	1.2	0.0
Delay (s)		28.5	10.1		76.3		64.9	25.4	14.8	97.7	24.6	17.4
Level of Service		C	B		E		E	C	B	F	C	B
Approach Delay (s)		22.5			76.3			25.6			25.2	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 TWSC
2: Jefferson St & El Centro Ave

12/20/2017

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	1	186	6	2	1	120	268	1	0	394	18
Future Vol, veh/h	18	1	186	6	2	1	120	268	1	0	394	18
Conflicting Peds, #/hr	7	0	1	1	0	7	4	0	3	3	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	1	207	7	2	1	133	298	1	0	438	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1016	1011	443	1111	1010	308	442	0	0	-	-	0
Stage 1	442	442	-	568	568	-	-	-	-	-	-	-
Stage 2	574	569	-	543	442	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	216	240	615	186	240	732	1118	-	-	0	-	-
Stage 1	594	576	-	508	506	-	-	-	-	0	-	-
Stage 2	504	506	-	524	576	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	189	204	612	109	204	726	1117	-	-	-	-	-
Mov Cap-2 Maneuver	189	204	-	109	204	-	-	-	-	-	-	-
Stage 1	507	574	-	434	433	-	-	-	-	-	-	-
Stage 2	427	433	-	346	574	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.8	33.6	2.7	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1117	-	-	507	136	-	-
HCM Lane V/C Ratio	0.119	-	-	0.449	0.074	-	-
HCM Control Delay (s)	8.7	0	-	17.8	33.6	-	-
HCM Lane LOS	A	A	-	C	D	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.3	0.2	-	-

HCM Signalized Intersection Capacity Analysis
1: SR 29 & Wine Country Avenue

12/20/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	47	33	22	60	16	69	868	87	31	1087	59
Future Volume (vph)	24	47	33	22	60	16	69	868	87	31	1087	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1831	1583		1797		1770	3374	1583	1770	3374	1583
Flt Permitted		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1831	1583		1797		1770	3374	1583	1770	3374	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	27	52	37	24	67	18	77	964	97	34	1208	66
RTOR Reduction (vph)	0	0	31	0	5	0	0	0	44	0	0	33
Lane Group Flow (vph)	0	79	6	0	104	0	77	964	53	34	1208	33
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3						2			6
Actuated Green, G (s)		21.4	21.4		21.4		9.9	74.2	74.2	5.1	69.4	69.4
Effective Green, g (s)		21.4	21.4		21.4		9.9	74.2	74.2	5.1	69.4	69.4
Actuated g/C Ratio		0.15	0.15		0.15		0.07	0.53	0.53	0.04	0.50	0.50
Clearance Time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Vehicle Extension (s)		3.0	3.0		3.0		3.0	5.5	5.5	3.0	5.5	5.5
Lane Grp Cap (vph)		279	241		274		125	1788	838	64	1672	784
v/s Ratio Prot		c0.04			c0.06		c0.04	0.29		0.02	c0.36	
v/s Ratio Perm			0.00						0.03			0.02
v/c Ratio		0.28	0.02		0.38		0.62	0.54	0.06	0.53	0.72	0.04
Uniform Delay, d1		52.5	50.4		53.3		63.2	21.6	16.0	66.3	27.7	18.2
Progression Factor		0.37	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.8	0.1		4.0		8.7	1.2	0.1	8.2	2.7	0.1
Delay (s)		21.2	50.5		57.3		71.9	22.8	16.1	74.5	30.5	18.3
Level of Service		C	D		E		E	C	B	E	C	B
Approach Delay (s)		30.6			57.3			25.6			31.0	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 TWSC
2: Jefferson St & El Centro Ave

12/20/2017

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	117	1	0	0	113	304	6	0	305	8
Future Vol, veh/h	2	1	117	1	0	0	113	304	6	0	305	8
Conflicting Peds, #/hr	31	0	0	0	0	31	30	0	18	18	0	30
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	130	1	0	0	126	338	7	0	339	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	992	983	369	1014	979	390	369	0	0	-	-	0
Stage 1	369	369	-	610	610	-	-	-	-	-	-	-
Stage 2	623	614	-	404	369	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	225	249	677	217	250	658	1190	-	-	0	-	-
Stage 1	651	621	-	482	485	-	-	-	-	0	-	-
Stage 2	474	483	-	623	621	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	192	208	660	154	209	631	1190	-	-	-	-	-
Mov Cap-2 Maneuver	192	208	-	154	209	-	-	-	-	-	-	-
Stage 1	552	605	-	413	415	-	-	-	-	-	-	-
Stage 2	401	413	-	499	605	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	28.5	2.2	0
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1190	-	-	623	154	-	-
HCM Lane V/C Ratio	0.106	-	-	0.214	0.007	-	-
HCM Control Delay (s)	8.4	0	-	12.3	28.5	-	-
HCM Lane LOS	A	A	-	B	D	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.8	0	-	-

HCM Signalized Intersection Capacity Analysis
1: SR 29 & Wine Country Avenue

12/20/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	72	88	84	63	49	19	1153	41	10	813	23
Future Volume (vph)	110	72	88	84	63	49	19	1153	41	10	813	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1808	1583		1753		1770	3374	1583	1770	3374	1583
Flt Permitted		0.97	1.00		0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1808	1583		1753		1770	3374	1583	1770	3374	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor (vph)	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%
Adj. Flow (vph)	136	89	109	104	78	61	24	1430	51	12	1008	29
RTOR Reduction (vph)	0	0	92	0	8	0	0	0	23	0	0	14
Lane Group Flow (vph)	0	225	17	0	235	0	24	1430	28	12	1008	15
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3						2			6
Actuated Green, G (s)		21.4	21.4		21.4		7.5	77.7	77.7	1.6	71.8	71.8
Effective Green, g (s)		21.4	21.4		21.4		7.5	77.7	77.7	1.6	71.8	71.8
Actuated g/C Ratio		0.15	0.15		0.15		0.05	0.56	0.56	0.01	0.51	0.51
Clearance Time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Vehicle Extension (s)		3.0	3.0		3.0		3.0	5.5	5.5	3.0	5.5	5.5
Lane Grp Cap (vph)		276	241		267		94	1872	878	20	1730	811
v/s Ratio Prot		c0.12			c0.13		0.01	c0.42		c0.01	0.30	
v/s Ratio Perm			0.01						0.02			0.01
v/c Ratio		0.82	0.07		0.88		0.26	0.76	0.03	0.60	0.58	0.02
Uniform Delay, d1		57.4	50.8		58.0		63.6	24.1	14.1	68.9	23.7	16.8
Progression Factor		0.34	0.15		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		17.3	0.4		31.1		1.4	3.0	0.1	40.2	1.4	0.0
Delay (s)		36.6	8.0		89.1		65.0	27.1	14.2	109.1	25.1	16.8
Level of Service		D	A		F		E	C	B	F	C	B
Approach Delay (s)		27.3			89.1			27.3			25.9	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 TWSC
2: Jefferson St & El Centro Ave

12/20/2017

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	1	186	6	2	1	120	268	1	0	394	18
Future Vol, veh/h	18	1	186	6	2	1	120	268	1	0	394	18
Conflicting Peds, #/hr	7	0	1	1	0	7	4	0	3	3	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1	227	7	2	1	147	328	1	0	482	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1116	1111	487	1222	1111	338	486	0	0	-	-	0
Stage 1	486	486	-	625	625	-	-	-	-	-	-	-
Stage 2	630	625	-	597	486	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	185	209	581	156	209	704	1077	-	-	0	-	-
Stage 1	563	551	-	473	477	-	-	-	-	0	-	-
Stage 2	470	477	-	490	551	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	158	173	579	82	173	698	1076	-	-	-	-	-
Mov Cap-2 Maneuver	158	173	-	82	173	-	-	-	-	-	-	-
Stage 1	467	549	-	393	396	-	-	-	-	-	-	-
Stage 2	386	396	-	297	549	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.4	43.7	2.7	0
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1076	-	-	465	104	-	-
HCM Lane V/C Ratio	0.136	-	-	0.539	0.106	-	-
HCM Control Delay (s)	8.9	0	-	21.4	43.7	-	-
HCM Lane LOS	A	A	-	C	E	-	-
HCM 95th %tile Q(veh)	0.5	-	-	3.1	0.3	-	-

HCM Signalized Intersection Capacity Analysis
1: SR 29 & Wine Country Avenue

12/20/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	47	33	22	60	16	69	868	87	31	1087	59
Future Volume (vph)	24	47	33	22	60	16	69	868	87	31	1087	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1832	1583		1797		1770	3374	1583	1770	3374	1583
Flt Permitted		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1832	1583		1797		1770	3374	1583	1770	3374	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor (vph)	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%
Adj. Flow (vph)	30	58	41	27	74	20	86	1076	108	38	1348	73
RTOR Reduction (vph)	0	0	35	0	5	0	0	0	42	0	0	36
Lane Group Flow (vph)	0	88	6	0	116	0	86	1076	66	38	1348	37
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3						2			6
Actuated Green, G (s)		21.4	21.4		21.4		10.2	76.1	76.1	3.2	69.1	69.1
Effective Green, g (s)		21.4	21.4		21.4		10.2	76.1	76.1	3.2	69.1	69.1
Actuated g/C Ratio		0.15	0.15		0.15		0.07	0.54	0.54	0.02	0.49	0.49
Clearance Time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Vehicle Extension (s)		3.0	3.0		3.0		3.0	5.5	5.5	3.0	5.5	5.5
Lane Grp Cap (vph)		280	241		274		128	1834	860	40	1665	781
v/s Ratio Prot		c0.05			c0.06		c0.05	0.32		c0.02	c0.40	
v/s Ratio Perm			0.00						0.04			0.02
v/c Ratio		0.31	0.03		0.42		0.67	0.59	0.08	0.95	0.81	0.05
Uniform Delay, d1		52.8	50.4		53.7		63.3	21.4	15.2	68.3	29.9	18.4
Progression Factor		0.36	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.1	0.1		4.7		13.0	1.4	0.2	121.1	4.4	0.1
Delay (s)		21.4	50.6		58.4		76.3	22.8	15.4	189.4	34.3	18.5
Level of Service		C	D		E		E	C	B	F	C	B
Approach Delay (s)		30.7			58.4			25.8			37.5	
Approach LOS		C			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 TWSC
2: Jefferson St & El Centro Ave

12/20/2017

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	117	1	0	0	113	304	6	0	305	8
Future Vol, veh/h	2	1	117	1	0	0	113	304	6	0	305	8
Conflicting Peds, #/hr	31	0	0	0	0	31	30	0	18	18	0	30
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	143	1	0	0	138	372	7	0	373	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1085	1076	403	1114	1072	424	403	0	0	-	-	0
Stage 1	403	403	-	669	669	-	-	-	-	-	-	-
Stage 2	682	673	-	445	403	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	194	219	647	185	220	630	1156	-	-	0	-	-
Stage 1	624	600	-	447	456	-	-	-	-	0	-	-
Stage 2	440	454	-	592	600	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	163	179	631	124	179	605	1156	-	-	-	-	-
Mov Cap-2 Maneuver	163	179	-	124	179	-	-	-	-	-	-	-
Stage 1	517	585	-	374	381	-	-	-	-	-	-	-
Stage 2	364	380	-	457	585	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	34.3	2.3	0
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1156	-	-	590	124	-	-
HCM Lane V/C Ratio	0.119	-	-	0.249	0.01	-	-
HCM Control Delay (s)	8.5	0	-	13.1	34.3	-	-
HCM Lane LOS	A	A	-	B	D	-	-
HCM 95th %tile Q(veh)	0.4	-	-	1	0	-	-

HCM Signalized Intersection Capacity Analysis
1: SR 29 & Wine Country Avenue

12/03/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	72	88	100	63	54	19	1153	46	11	813	23
Future Volume (vph)	110	72	88	100	63	54	19	1153	46	11	813	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1808	1583		1751		1770	3374	1583	1770	3374	1583
Flt Permitted		0.97	1.00		0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1808	1583		1751		1770	3374	1583	1770	3374	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	121	79	97	110	69	59	21	1267	51	12	893	25
RTOR Reduction (vph)	0	0	81	0	8	0	0	0	23	0	0	12
Lane Group Flow (vph)	0	200	16	0	230	0	21	1267	28	12	893	13
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3						2			6
Actuated Green, G (s)		22.8	22.8		21.4		7.3	76.3	76.3	1.6	70.6	70.6
Effective Green, g (s)		22.8	22.8		21.4		7.3	76.3	76.3	1.6	70.6	70.6
Actuated g/C Ratio		0.16	0.16		0.15		0.05	0.54	0.54	0.01	0.50	0.50
Clearance Time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Vehicle Extension (s)		3.0	3.0		3.0		3.0	5.5	5.5	3.0	5.5	5.5
Lane Grp Cap (vph)		294	257		267		92	1838	862	20	1701	798
v/s Ratio Prot		c0.11			c0.13		0.01	c0.38		c0.01	0.26	
v/s Ratio Perm			0.01						0.02			0.01
v/c Ratio		0.68	0.06		0.86		0.23	0.69	0.03	0.60	0.52	0.02
Uniform Delay, d1		55.2	49.6		57.8		63.6	23.2	14.8	68.9	23.4	17.3
Progression Factor		0.35	0.20		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		9.4	0.4		28.5		1.3	2.1	0.1	40.2	1.2	0.0
Delay (s)		28.5	10.1		86.3		64.9	25.4	14.8	109.1	24.6	17.4
Level of Service		C	B		F		E	C	B	F	C	B
Approach Delay (s)		22.5			86.3			25.6			25.5	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 TWSC
2: Jefferson St & El Centro Ave

12/03/2018

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	1	196	6	2	1	123	268	1	0	394	19
Future Vol, veh/h	19	1	196	6	2	1	123	268	1	0	394	19
Conflicting Peds, #/hr	7	0	1	1	0	7	4	0	3	3	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	1	218	7	2	1	137	298	1	0	438	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1023	1018	443	1135	1039	309	463	0	0	-	-	0
Stage 1	442	442	-	576	576	-	-	-	-	-	-	-
Stage 2	581	576	-	559	463	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	214	237	615	179	231	731	1098	-	-	0	-	-
Stage 1	594	576	-	503	502	-	-	-	-	0	-	-
Stage 2	499	502	-	513	564	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	186	201	612	101	195	725	1094	-	-	-	-	-
Mov Cap-2 Maneuver	186	201	-	101	195	-	-	-	-	-	-	-
Stage 1	503	574	-	427	426	-	-	-	-	-	-	-
Stage 2	419	426	-	330	562	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.4	35.8	2.7	0
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1094	-	-	505	127	-	-
HCM Lane V/C Ratio	0.125	-	-	0.475	0.079	-	-
HCM Control Delay (s)	8.8	0	-	18.4	35.8	-	-
HCM Lane LOS	A	A	-	C	E	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.5	0.3	-	-

HCM Signalized Intersection Capacity Analysis
1: SR 29 & Wine Country Avenue

12/03/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	47	33	33	60	19	69	868	105	36	1087	59
Future Volume (vph)	24	47	33	33	60	19	69	868	105	36	1087	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1831	1583		1790		1770	3374	1583	1770	3374	1583
Flt Permitted		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1831	1583		1790		1770	3374	1583	1770	3374	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	27	52	37	37	67	21	77	964	117	40	1208	66
RTOR Reduction (vph)	0	0	31	0	5	0	0	0	44	0	0	33
Lane Group Flow (vph)	0	79	6	0	120	0	77	964	73	40	1208	33
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3						2			6
Actuated Green, G (s)		21.4	21.4		21.4		9.9	74.5	74.5	4.8	69.4	69.4
Effective Green, g (s)		21.4	21.4		21.4		9.9	74.5	74.5	4.8	69.4	69.4
Actuated g/C Ratio		0.15	0.15		0.15		0.07	0.53	0.53	0.03	0.50	0.50
Clearance Time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Vehicle Extension (s)		3.0	3.0		3.0		3.0	5.5	5.5	3.0	5.5	5.5
Lane Grp Cap (vph)		279	241		273		125	1795	842	60	1672	784
v/s Ratio Prot		c0.04			c0.07		c0.04	0.29		0.02	c0.36	
v/s Ratio Perm			0.00						0.05			0.02
v/c Ratio		0.28	0.02		0.44		0.62	0.54	0.09	0.67	0.72	0.04
Uniform Delay, d1		52.5	50.4		53.9		63.2	21.5	16.1	66.8	27.7	18.2
Progression Factor		0.37	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.8	0.1		5.1		8.7	1.2	0.2	24.5	2.7	0.1
Delay (s)		21.2	50.5		58.9		71.9	22.6	16.3	91.4	30.5	18.3
Level of Service		C	D		E		E	C	B	F	C	B
Approach Delay (s)		30.6			58.9			25.2			31.7	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 TWSC
2: Jefferson St & El Centro Ave

12/03/2018

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	123	1	0	0	124	304	6	0	305	10
Future Vol, veh/h	3	1	123	1	0	0	124	304	6	0	305	10
Conflicting Peds, #/hr	31	0	0	0	0	31	30	0	18	18	0	30
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	137	1	0	0	138	338	7	0	339	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1018	1008	369	1050	1016	391	380	0	0	-	-	0
Stage 1	369	369	-	636	636	-	-	-	-	-	-	-
Stage 2	649	639	-	414	380	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	216	240	677	205	238	658	1178	-	-	0	-	-
Stage 1	651	621	-	466	472	-	-	-	-	0	-	-
Stage 2	458	470	-	616	614	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	182	196	660	141	194	631	1149	-	-	-	-	-
Mov Cap-2 Maneuver	182	196	-	141	194	-	-	-	-	-	-	-
Stage 1	540	605	-	391	396	-	-	-	-	-	-	-
Stage 2	380	394	-	488	599	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	30.7	2.4	0
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1149	-	-	611	141	-	-
HCM Lane V/C Ratio	0.12	-	-	0.231	0.008	-	-
HCM Control Delay (s)	8.6	0	-	12.7	30.7	-	-
HCM Lane LOS	A	A	-	B	D	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.9	0	-	-

HCM Signalized Intersection Capacity Analysis
1: SR 29 & Wine Country Avenue

12/03/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	72	88	100	63	54	19	1153	46	11	813	23
Future Volume (vph)	110	72	88	100	63	54	19	1153	46	11	813	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1808	1583		1751		1770	3374	1583	1770	3374	1583
Flt Permitted		0.97	1.00		0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1808	1583		1751		1770	3374	1583	1770	3374	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor (vph)	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%
Adj. Flow (vph)	136	89	109	124	78	67	24	1430	57	14	1008	29
RTOR Reduction (vph)	0	0	92	0	8	0	0	0	25	0	0	14
Lane Group Flow (vph)	0	225	17	0	261	0	24	1430	32	14	1008	15
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3						2			6
Actuated Green, G (s)		21.4	21.4		21.4		7.5	77.7	77.7	1.6	71.8	71.8
Effective Green, g (s)		21.4	21.4		21.4		7.5	77.7	77.7	1.6	71.8	71.8
Actuated g/C Ratio		0.15	0.15		0.15		0.05	0.56	0.56	0.01	0.51	0.51
Clearance Time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Vehicle Extension (s)		3.0	3.0		3.0		3.0	5.5	5.5	3.0	5.5	5.5
Lane Grp Cap (vph)		276	241		267		94	1872	878	20	1730	811
v/s Ratio Prot		c0.12			c0.15		0.01	c0.42		c0.01	0.30	
v/s Ratio Perm			0.01						0.02			0.01
v/c Ratio		0.82	0.07		0.98		0.26	0.76	0.04	0.70	0.58	0.02
Uniform Delay, d1		57.4	50.8		59.0		63.6	24.1	14.1	69.0	23.7	16.8
Progression Factor		0.34	0.15		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		17.3	0.4		49.2		1.4	3.0	0.1	71.8	1.4	0.0
Delay (s)		36.6	8.0		108.3		65.0	27.1	14.2	140.8	25.1	16.8
Level of Service		D	A		F		E	C	B	F	C	B
Approach Delay (s)		27.3			108.3			27.2			26.4	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 TWSC
2: Jefferson St & El Centro Ave

12/03/2018

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	1	196	6	2	1	123	268	1	0	394	19
Future Vol, veh/h	19	1	196	6	2	1	123	268	1	0	394	19
Conflicting Peds, #/hr	7	0	1	1	0	7	4	0	3	3	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	1	240	7	2	1	150	328	1	0	482	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1123	1118	487	1247	1141	339	509	0	0	-	-	0
Stage 1	486	486	-	632	632	-	-	-	-	-	-	-
Stage 2	637	632	-	615	509	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	183	207	581	150	201	703	1056	-	-	0	-	-
Stage 1	563	551	-	468	474	-	-	-	-	0	-	-
Stage 2	465	474	-	479	538	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	155	170	579	76	165	697	1052	-	-	-	-	-
Mov Cap-2 Maneuver	155	170	-	76	165	-	-	-	-	-	-	-
Stage 1	463	549	-	386	391	-	-	-	-	-	-	-
Stage 2	379	391	-	280	536	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.6	46.8	2.8	0
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1052	-	-	463	97	-	-
HCM Lane V/C Ratio	0.143	-	-	0.57	0.113	-	-
HCM Control Delay (s)	9	0	-	22.6	46.8	-	-
HCM Lane LOS	A	A	-	C	E	-	-
HCM 95th %tile Q(veh)	0.5	-	-	3.5	0.4	-	-

HCM Signalized Intersection Capacity Analysis
1: SR 29 & Wine Country Avenue

12/03/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	47	33	33	60	19	69	868	105	36	1087	59
Future Volume (vph)	24	47	33	33	60	19	69	868	105	36	1087	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1832	1583		1789		1770	3374	1583	1770	3374	1583
Flt Permitted		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1832	1583		1789		1770	3374	1583	1770	3374	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor (vph)	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%	124%
Adj. Flow (vph)	30	58	41	41	74	24	86	1076	130	45	1348	73
RTOR Reduction (vph)	0	0	35	0	5	0	0	0	45	0	0	36
Lane Group Flow (vph)	0	88	6	0	134	0	86	1076	85	45	1348	37
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	7%	2%	2%	7%	2%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases			3						2			6
Actuated Green, G (s)		21.4	21.4		21.4		10.2	72.9	72.9	6.4	69.1	69.1
Effective Green, g (s)		21.4	21.4		21.4		10.2	72.9	72.9	6.4	69.1	69.1
Actuated g/C Ratio		0.15	0.15		0.15		0.07	0.52	0.52	0.05	0.49	0.49
Clearance Time (s)		4.6	4.6		4.6		3.0	5.7	5.7	3.0	5.7	5.7
Vehicle Extension (s)		3.0	3.0		3.0		3.0	5.5	5.5	3.0	5.5	5.5
Lane Grp Cap (vph)		280	241		273		128	1756	824	80	1665	781
v/s Ratio Prot		c0.05			c0.07		c0.05	0.32		0.03	c0.40	
v/s Ratio Perm			0.00						0.05			0.02
v/c Ratio		0.31	0.03		0.49		0.67	0.61	0.10	0.56	0.81	0.05
Uniform Delay, d1		52.8	50.4		54.3		63.3	23.6	17.0	65.4	29.9	18.4
Progression Factor		0.36	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.1	0.1		6.2		13.0	1.6	0.3	8.8	4.4	0.1
Delay (s)		21.4	50.6		60.5		76.3	25.2	17.3	74.2	34.3	18.5
Level of Service		C	D		E		E	C	B	E	C	B
Approach Delay (s)		30.7			60.5			27.8			34.7	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 TWSC
2: Jefferson St & El Centro Ave

12/03/2018

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	123	1	0	0	124	304	6	0	305	10
Future Vol, veh/h	3	1	123	1	0	0	124	304	6	0	305	10
Conflicting Peds, #/hr	31	0	0	0	0	31	30	0	18	18	0	30
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	150	1	0	0	152	372	7	0	373	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1114	1104	403	1153	1113	425	415	0	0	-	-	0
Stage 1	403	403	-	698	698	-	-	-	-	-	-	-
Stage 2	711	701	-	455	415	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	185	211	647	174	208	629	1144	-	-	0	-	-
Stage 1	624	600	-	431	442	-	-	-	-	0	-	-
Stage 2	424	441	-	585	592	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	152	168	631	113	165	604	1115	-	-	-	-	-
Mov Cap-2 Maneuver	152	168	-	113	165	-	-	-	-	-	-	-
Stage 1	503	585	-	351	360	-	-	-	-	-	-	-
Stage 2	342	359	-	445	577	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	37.2	2.5	0
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1115	-	-	576	113	-	-
HCM Lane V/C Ratio	0.136	-	-	0.269	0.011	-	-
HCM Control Delay (s)	8.7	0	-	13.5	37.2	-	-
HCM Lane LOS	A	A	-	B	E	-	-
HCM 95th %tile Q(veh)	0.5	-	-	1.1	0	-	-

Appendix D

Turn-Lane Warrants

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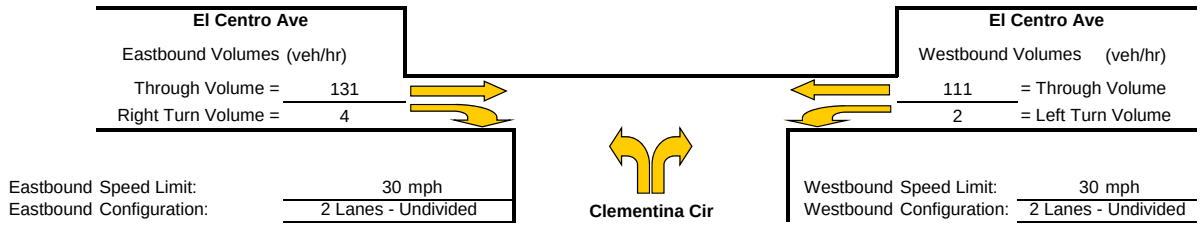
Turn Lane Warrant Analysis - Tee Intersections

Study Intersection: El Centro Ave/Clementina Circle
Study Scenario: AM Future plus Project

Direction of Analysis Street: East/West
Cross Street Intersects: From the South



Eastbound Speed Limit:	30 mph	Westbound Speed Limit:	30 mph
Eastbound Configuration:	2 Lanes - Undivided	Westbound Configuration:	2 Lanes - Undivided

---

Eastbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	1020.1
Advancing Volume	Va =	135
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Eastbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

NOT WARRANTED - Less than 20 vehicles

2. Check advance volume threshold criteria for taper

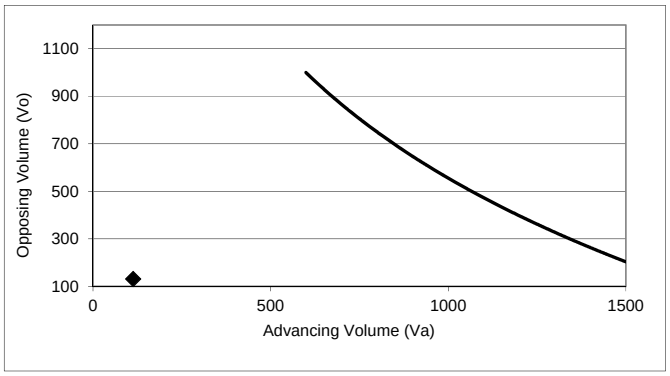
Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	135
If AV<Va then warrant is met		-

Right Turn Taper Warranted: **NO**

Westbound Left Turn Lane Warrants

Percentage Left Turns	%lt	1.8 %
Advancing Volume Threshold	AV	1630 veh/hr

If AV<Va then warrant is met



◆ Study Intersection
Two lane roadway warrant threshold for: 30 mph
Turn lane warranted if point falls to right of warrant threshold line

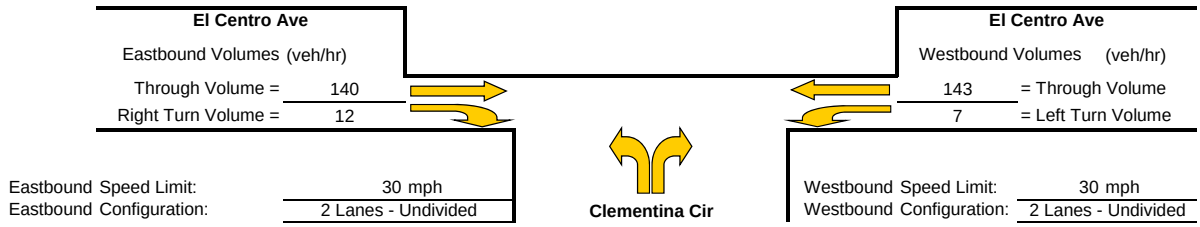
Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements* , January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

Turn Lane Warrant Analysis - Tee Intersections

Study Intersection: El Centro Ave/Clementina Circle
Study Scenario: PM Future plus Project

Direction of Analysis Street: East/West
Cross Street Intersects: From the South



Eastbound Speed Limit:	30 mph	Westbound Speed Limit:	30 mph
Eastbound Configuration:	2 Lanes - Undivided	Westbound Configuration:	2 Lanes - Undivided

---

Eastbound Right Turn Lane Warrants

1. Check for right turn volume criteria

Thresholds not met, continue to next step

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold	AV =	960.1
Advancing Volume	Va =	152
If AV<Va then warrant is met		No

Right Turn Lane Warranted: **NO**

Eastbound Right Turn Taper Warrants
(evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

NOT WARRANTED - Less than 20 vehicles

2. Check advance volume threshold criteria for taper

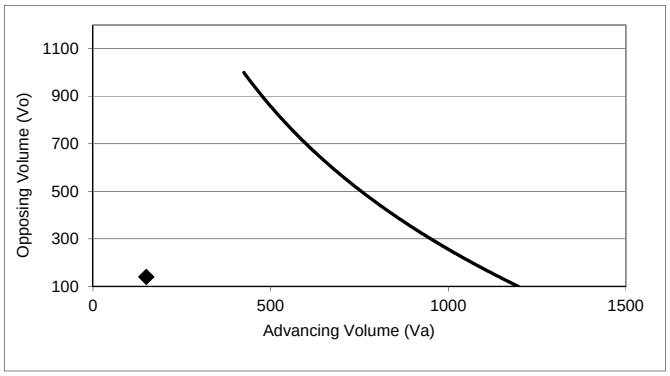
Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	152
If AV<Va then warrant is met		-

Right Turn Taper Warranted: **NO**

Westbound Left Turn Lane Warrants

Percentage Left Turns	%lt	4.7 %
Advancing Volume Threshold	AV	1143 veh/hr

If AV<Va then warrant is met



◆ Study Intersection
Two lane roadway warrant threshold for: 30 mph
Turn lane warranted if point falls to right of warrant threshold line

Left Turn Lane Warranted: **NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements* , January 1997.
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.
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H.2 - Addendum to the TIS-VMT Analysis

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August 17, 2020

Mr. Robert Biale
2040 Brown Street
Napa, CA 94559

Addendum to the *Traffic Impact Study for the Zinfandel Estate Subdivision* - VMT Analysis

Dear Mr. Biale;

As requested, W-Trans has prepared an addendum to the *Traffic Impact Study for the Zinfandel Estate Subdivision* (TIS), dated August 2019. This addendum to the TIS was undertaken to assess the trip generation of the project based on an update to the proposal since the TIS was prepared and to analyze the potential impacts of the proposed project relative to vehicle miles traveled (VMT).

Modification to Number of Accessory Dwelling Units

The proposed project would result in development of 53 lots, with 50 lots located north of Salvador Creek and three lots south of the creek. The property is currently occupied by vineyards and two single-family dwellings, one of which would be removed as part of the project. As stated in the TIS, the proposed project would include 53 single-family detached dwellings and five accessory dwelling units (ADUs). Since completion of the study, the project has been modified to include 12 ADUs instead of five and 14 new junior ADUs, resulting in 21 more accessory dwelling units than were assessed in the TIS.

While there are no standard ITE rates for ADUs or junior ADUs, it is anticipated that these dwelling units would have trip generating characteristics similar to an apartment based on the similar size of the units, so ITE rates for "Multifamily Housing (Low-Rise)" (LU # 220) were applied. Consistent with the analysis in the TIS, standard rates for "Single-Family Detached Housing" (LU #210) were again applied to the 53 single-family homes.

As shown in Table 1, the modified project would be expected to result in an average of 690 trips per day, including 51 trips during the a.m. peak hour and 67 trips during the p.m. peak hour. After accounting for the existing trips associated with the single-family residence that would be removed, the project would be expected to result in 681 net new daily trips on average with 50 new trips during the a.m. peak hour and 66 new trips during the p.m. peak hour.

Table 1 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Existing											
Single-Family Detached Housing	-1 du	9.44	-9	0.74	-1	0	-1	0.99	-1	-1	0
Proposed											
Single-Family Detached Housing	53 du	9.44	500	0.74	39	10	29	0.99	52	33	19
Multifamily Housing (Low-Rise)	26 du	7.32	190	0.46	12	3	9	0.56	15	9	6
Total Proposed			*690*		*51*	*13*	*38*		*67*	*42*	*25*
Net New Trips			**681**		**50**	**13**	**37**		**66**	**41**	**25**
Net Difference from TIS Analysis			*133*		*7*	*2*	*5*		*9*	*5*	*4*

Note: du = dwelling unit

As contained in Table 6 of the TIS, the project as previously proposed was expected to result in 539 new daily trips with 42 trips during the a.m. peak hour and 56 trips during the p.m. peak hour, though the operational analysis was prepared based on a larger version of the project that included one more lot and resulted in an average of 548 new trips per day including 43 a.m. trips and 57 p.m. trips. The project as currently proposed would be expected to result in seven more a.m. peak hour trips and nine more p.m. peak hour trips than analyzed in the traffic study. Given that the intersection of SR 29/Wine Country Avenue was projected to operate at LOS C during both peak hours under worst-case Future plus Project Conditions and Jefferson Street/El Centro Avenue was projected to operate at LOS A overall and LOS C or better on the side-street stop-controlled approach during this same scenario, it is reasonable to conclude that both intersections would continue to operate acceptably with the incremental increase in traffic associated with the project as now proposed.

Finding – Both study intersections would be expected to continue operating acceptably into the year 2040 with project traffic associated with 53 single-family homes, 12 ADUs, and 14 junior ADUs.

Vehicle Miles Traveled

Senate Bill (SB) 743 established a change in the metric to be applied for determining traffic impacts associated with development projects. Rather than the delay-based criteria associated with a Level of Service (LOS) analysis, the increase in Vehicle Miles Traveled (VMT) as a result of a project is now the basis for determining California Environmental Quality Act (CEQA) impacts with respect to transportation and traffic. As of the date of this analysis, the City of Napa has not yet established thresholds of significance related to VMT. As a result, the project-related VMT impacts were assessed based on guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018.

Though Napa County is in the process of conducting a VMT baseline analysis, this information was not available at the time this report was prepared. Therefore, information contained in the California Statewide Travel Demand Model was used. To analyze the potential impact of the proposed residential project, a countywide home-based VMT per capita estimate was calculated from output of the statewide model, using figures for population and VMT for each traffic analysis zone (TAZ) in the county. Based on this methodology, it was estimated that Napa County has a countywide per capita home-based VMT of 11.04 miles per day. Applying OPR's guidance, a residential project generating a VMT that is 15 percent or more below this value, or 9.38 miles per capita per day or less, would have a less-than-significant VMT impact. The proposed project is located in TAZ 808, which has a per capita home-based VMT of 7.85 miles per day, which is 29 percent below the countywide average. Since this is more than 15

percent below the countywide average value, the project would have a less-than-significant transportation impact on VMT based on OPR's guidance. This information is summarized in Table 2.

Table 2 – Vehicle Miles Traveled Analysis Summary

VMT Metric	Baseline VMT Rate	Significance Threshold	Project VMT Rate	Resulting Significance
Residential VMT per Capita (Countywide Baseline)	11.04	9.38	7.85	Less than Significant

Note: VMT Rate is measured in VMT/Capita, or the number of daily miles driven per resident

Finding – Based on OPR guidance and information contained in the California Statewide Travel Demand Model, the project would be expected to have a less-than-significant transportation impact on VMT.

Conclusions and Recommendations

- The proposed project of 53 single-family homes, 12 ADUs, and 14 junior ADUs and would be expected to result in 681 net new daily trips on average with 50 new trips during the a.m. peak hour and 66 new trips during the p.m. peak hour.

- As documented in the TIS, both study intersections are expected to operate acceptably with project traffic under volumes anticipated for the future horizon year of 2040. Given the minimal number of new trips associated with the project as now proposed compared to what was assessed in the TIS, it is reasonable to expect similar service levels and acceptable operations at both study intersections.

- The project is expected to have a less-than-significant transportation impact on VMT.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

Cameron Nye, EIT
Associate Engineer

Barry Bergman, AICP
Senior Planner

Dalene J. Whitlock, PE, PTOE
Senior Principal

REGISTERED PROFESSIONAL ENGINEER
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